

AD
9006
45m

ALBERT R. MANN
LIBRARY

NEW YORK STATE COLLEGES
OF
AGRICULTURE AND HOME ECONOMICS



AT
CORNELL UNIVERSITY

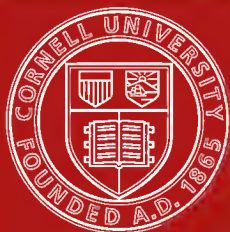
Cornell University Library
HD 9006.U5M

[Miscellaneous pamphlets]



3 1924 014 028 611

mann



Cornell University
Library

The original of this book is in
the Cornell University Library.

There are no known copyright restrictions in
the United States on the use of the text.

United States Food Administration

Doubling the Wheat Dollar

Washington, D. C.

February, 1918



WASHINGTON
GOVERNMENT PRINTING OFFICE
1918

DOUBLING THE WHEAT DOLLAR.

By CHARLES W. HOLMAN.

[In the Country Gentleman of January 26, 1918.]

Doubling the farmer's share of the wheat dollar is one of the wartime jobs Uncle Sam has done since food control became possible. After four months of grappling with the problem, Uncle Sam is now translating into the pockets of both producers and consumers benefits derived by the Nation. He has shut off speculation, produced a free market and movement of all grades of wheat, cut expenses and induced a normal flow of wheat in natural directions, and effected a thousand other economies.

The Food Administration Grain Corporation, which supervises the sale, or itself buys every bushel of wheat produced in the Nation in its progress from country elevator to foreign buyers or domestic consumers, marks a new step toward national efficiency. How in four short months it has been done is told in the following episodes wherein two bushels of wheat traveled to market.

One fine fall afternoon, Col. Bill Jenkins, who farms somewhere in Missouri, loaded his wheat into a wagon and drove along the black road that led across the prairie to town. When he reached the cooperative elevator of which he was a stockholder, he pulled up on the scales, checked his gross weights carefully, and began to unload. The manager came out and inquired as to the Colonel's family. They swapped some remarks about the prices of hogs and exchanged views on the duration of the war. Finally the manager asked:

"When you want to sell this wheat?"

"I dunno," he answered. "One time's about as good as another—these days. " "I won't weigh any more later," he added, with a dry smile.

"Wheat shrinks a lot," admitted the manager. "I hear the Government wants as much wheat as it can get just now—understand the Allies do eat a terrible lot of it since the war."

"What's wheat to-day?" asked Col. Jenkins, getting interested.

"Well, let me see," parleyed the manager. "I guess this wheat'd be a good No. 2 under the new grades."

"Grades? What about grades? That Food Administration seems to mix into mighty nigh everything from rabbits to axle grease."

"Hold on, Colonel," said the elevator man, good-naturedly. "The Food Administration is not to be blamed. Congress passed the act and told the Department of Agriculture to fix the grades. They became effective last July. I sent out a letter on it."

"I suppose you did," ruefully answered the Colonel. "But I don't pay much attention to those circular letters. I sure thought this wheat would grade No. 1. Well, what do you think I'll get out of it, anyway?"

"I'll have to figure that out," confessed the manager, looking wise and important. "Pricing under the new grades and selling under Food Administration orders is sort of complicated. I'll 'phone you later."

"Well, I guess you better sell for the best you can," said the farmer. "I am needed at home." And he drove away.

A New Order In the Grain World.

Conversations of this kind might have taken place in almost every town in the great grain belt of the Nation after August 10; for revolution in grain marketing was taking place. Uncle Sam had started on this remarkable experiment; he was going to see whether wheat could be marketed minus rake-offs to the speculators. This necessitated complete control by the Government of storage facilities, transportation and distributive agencies, and the marketing machinery for wheat and rye. How to be "in line" with the changed order was troubling farmers, elevator managers, millers, and commission firms.

Everybody was troubled; most of all, the officials of the Food Administration Grain Corporation who had undertaken, without salary, and at the sacrifice of their personal connection with the grain trade, to whip into shape the forces that would drive forward the big business machine for marketing American wheat. A single control; and a \$50,000,000 nonprofit-making corporation to do the work.

This work is a necessary arm of the Food Administration, allowing the Government to do business quickly and without red tape. Its stock is held in trust by the President of the United States. For the time of the war it will supervise the rate or purchase the part commercially available of the 660,000,000 bushels of wheat and the 50,000,000 surplus of rye grown in America in 1917. Its job is to find a market for every bushel, irrespective of class and grade. Under its patronage, wheat screenings are moving just as easily as No. 1 Northern. It must also work out satisfactorily the local prices for wheat at each of almost 20,000 country elevator points, adjust thousands of complaints, organize the gathering and analysis of data, inspect concerns reported as dealing unfairly, solve vexatious disagreements among the trade, and deal effectively with the allies' purchasing agent and the neutrals who may desire to purchase.

It is indeed a Herculean task, and to succeed will require not a single mind, but a group of dominating minds, to plan and execute. And in so short a time, too!

In the early days, following the determination of prices for 1917 wheat by the President's Fair Price Commission, confusion existed in every part of the wheat-producing regions. This was intensified by the inauguration of the new grain grades, as promulgated by the Department of Agriculture, which took place about the same time, and led to diverse complaints and a feeling among farmers that the Grain Corporation of the Food Administration was responsible for both the price as determined and stricter observance of grain grades. But the corporation was responsible for neither act. It is purely an administrative arm of the Government formed to buy grain or supervise its sale at the prices determined by the commission, and it must do its work on the basis of the new grades. Gradually the public is learning the fact and fewer complaints are heard. But to return to our farmer and his expectations of price.

Introducing Two Bushels of Wheat.

Lying side by side in his wagon had been 2 bushels of wheat that fate had marked for strangely different ends. They were very much alike, those bushels of wheat, and to look at them you would not have suspected the strange and wonderful adventures in store for them. Yet one was destined to travel abroad for consumption in France; the other to find its way into Georgia, where it was milled and its flour finally reached a New York baker on the East Side, whose loaves are eaten by hungry, dark-eyed little boys and girls with large noses and quaint ways. By accident only they journeyed over divergent roads; they both had traveled together through the fans of the elevator and reposed for a short time in the same storage bin. But in the sum of the travels made by the two, as we shall follow them, will be unfolded the international panorama of wheat marketing in time of war.

Farm Production Costs In War Times.

Our twin bushels of wheat had each cost their owner about \$1.8152, which included an estimate of all production expenses from the cost of seed wheat until the crop was loaded at the elevator. On another farm these costs might have been different, and they are not at all likely to apply in other states. But the same principles of cost finding can be worked out by any person who wishes to discover the elements of expense that must be added to the price of a bushel of wheat in its production and travels from the farm to the country elevator and to the terminal or the miller and from the miller to the baker, operator, or wholesaler, and then to the retailer, who puts it into the household. Here are the estimates which our Missouri farmer made of his production costs,¹ on an acreage basis with a yield of $19\frac{1}{4}$ bushels per acre.

¹ The figures used in this imaginary case were taken from a statement made by a prominent grain grower near Sikeston, Mo.

Labor Costs per Acre.

Plowing land, \$2.50; disking two times, \$1.50; floating two times, \$1; harrowing once, 50 cents; rolling once, 75 cents; hauling fertilizer, 10 cents; applying fertilizer, 50 cents; applying manure, 30 cents; cleaning seed, 8 cents; drilling, 50 cents; running furrows for drainage, 5 cents; cutting, 75 cents; shocking, 40 cents; threshing (farm labor only), \$1.50; hauling fuel, 10 cents; hauling grain from farm to elevator, 20 cents; superintendence, \$1; making a total labor cost of \$11.73.

Other Costs per Acre.

He used $1\frac{1}{2}$ bushels of seed wheat at \$1.75 per bushel, \$2; commercial fertilizer, \$1.50; manure, 90 cents; $2\frac{1}{2}$ pounds of twine, at 16 cents per pound, 35 cents; threshing charge at 6 cents per bushel, \$1.14; fuel for threshing, 20 cents; use of land which represented an interest per acre on investment necessary to grow wheat, \$13; use of machinery not included under labor, \$1; taxes, 10 cents; crop insurance, 2 cents; crop risk (he figured this in to offset the hazards of crop failure), \$1; other general expenses figured in as overhead, \$2; making a total of \$23.21.

We now add the labor cost of \$11.73 and the other costs of \$23.21 and get a total cost of growing wheat on this farm of \$34.94 per acre.

Among the cost elements not counted by this farmer were cleaning of land, treating seed, stacking, raking stubble, sacks (he did not sack his grain). These costs would have added somewhat to the total.

He had planted 600 acres, and his yield in 1917 was extraordinarily good, being 11,550, or $19\frac{1}{4}$ bushels per acre, which made his average cost per bushel \$1.8152.

His usual yield was about 14 bushels per acre, which would have added materially to his costs if fate had not favored him. If he had found it necessary to purchase new machinery in 1917, the high prices would have been a considerable factor in raising the cost of production on this farm.

Some who read these figures may immediately challenge them; for items of expense are included that farmers rarely work out in their estimates, and on another farm the figures may vary. But the outstanding fact is that costs of producing wheat have risen measurably and now far exceed the public's conception of costs.

Finding a Price at a Country Point.

As it was, high war costs of production gave our Missouri farmer much concern as to his returns and accounted for his depression over the prospects of his wheat "grading down"; for that meant a reduction of 3 cents per bushel under the No. 1 grade. It graded No. 2 because, though bright, cool, and sweet, it contained a little too much of varieties other than Soft Red, which was the variety of wheat he

raised. He had also failed to put it through a fanning mill to remove the foreign matter and cracked kernels.

The elevator would also deduct an additional 5 cents a bushel to cover the fixed charge made in this locality for handling and selling. The 5-cent charge included the commission of 1 cent per bushel customary in 1917 among commission men for selling the wheat to domestic millers or foreign buyers. So while he drove home he meditated on the complicated questions of railroad freight differentials.

The elevator man was none too sure as to how to get at the price which this wheat should bring. He knew considerably more about human nature than freight rates and decided to "check up" the problem to the nearest zone agent of the Grain Corporation. So he wrote a letter to the representative stationed at St. Louis. That letter was referred to the traffic expert in the New York office, who transmitted the following rule for determining the price of wheat at any country point:

There is only one price for wheat at a country point. That price is always to be arrived at by taking as a basis the price at the most advantageous primary market where we have fixed a price and deducting the freight to that market and a fair handling profit. That is the price to be paid for wheat at any station, regardless of the point to which it may be shipped.

The traffic expert then worked out the problem in question, which was an instructive lesson to the elevator manager. Here is the way the price was determined. On the desk of the traffic man there is always a schedule which gives the prices and primary markets at which the Government will buy wheat.

When he refers to the railroad map of the United States and locates the country point the traffic man knows what primary points must be considered. His knowledge comes from long study of railroad freight differentials; and when a farmer or elevator man is in doubt he can clarify his mind quickly by referring the question to the traffic experts of the Grain Corporation.

Finding the Price of No. 2 Wheat at Sikeston.

Take an actual example: At the time when our 2 bushels of wheat went into storage, an elevator man in Sikeston, Mo., wanted to know what price No. 2 wheat should bring at his station when No. 1 wheat at New York City was \$2.28 per bushel. Here is how he went about it:

The freight rate from Sikeston to New York being 16.98 cents per bushel, he deducted that from \$2.28 per bushel and found the price at Sikeston to be \$2.1102. From this he deducted 1 cent per bushel for the commission firms charges, which put the net price f. o. b. Sikeston at \$2.1002.

He next compared this price with what he could get if he sold at St. Louis, his nearest primary market. At St. Louis the basic price is \$2.18 per bushel, and the freight rate from Sikeston to St. Louis 6

cents per bushel. This would make the Sikeston price \$2.12 less 1 cent per bushel for selling charges, or \$2.11 net. The St. Louis price would therefore govern, being advantageous to the Sikeston seller.

If our imaginary 2 bushels of wheat had started from Sikeston, since it was a No. 2 grade we must deduct 3 cents per bushel, which would bring the price f. o. b. the elevator point to \$2.0802 per bushel. As our imaginary elevator man is charging 5 cents per bushel for handling, which includes the commission fee just mentioned, we deduct an additional 4 cents to arrive at the price the farmer received. This price would be \$2.0402 at the elevator. Some of that 4 cents will return to our farmer if the elevator prospers; for it is owned cooperatively and pays to its stockholders an interest on their shares, and to the neighborhood dividends on a patronage basis.

When Farmer and Elevator Man Disagree.

Had this elevator been owned by private firm or person, or had it been a "line" plant, Col. Jenkins would not have been so bland and trustful. He would have done some investigating on his own account. He would have kept tab on the prices paid for wheat at other elevators within his reach and bargained shrewdly with the manager.

He might have refused to sell at all and arranged to store his wheat or he might have taken it over to a competitive concern which offered a higher price; for the Food Administration has not yet attempted *to regulate the prices paid farmers for wheat at country points. It does, however, offer to sell for any farmer or farmers' organization wheat offered at terminal points, but makes a commission charge of 1 per cent for its services.*

The Colonel might also have intrusted the sale to a reputable commission firm. But he did none of these things; for he owns stock in this particular cooperative enterprise and regards the manager as his hired man paid to look after his interests and those of his brother farmers. And if that "Co-op" did not pay him the highest price obtainable woe unto its manager when the annual meeting is held. Which accounts for the pigs and chickens being fed on schedule time that particular evening in early fall when our 2 bushels of wheat started on their eventful journey.

Our delay in getting this wheat started across the world was occasioned by the uncertain judgment of the manager. While he had told the farmer that the wheat was about a No. 2 he sent a sample on to the St. Louis zone agent for test, which verified his judgment. He then went about his usual duties, cleaning the grain, filling his bins, and shipping out as regularly as he could in maximum carload quantities, in order to economize the use of cars in time of congestion. He was careful to keep his records very straight as to dates and quantities of wheat purchased, on hand, and shipped out;

for the Grain Corporation requires weekly reports and full details of such transactions.

Selling Wheat to the Government.

About 29 days after the farmer brought in his wheat there came a request to this elevator for a carload to be purchased by the Grain Corporation. So one of our wheat bushels was poured into a car which miraculously had appeared on the siding at a time when car shortage was troubling the entire commercial world. Inquiry might have shown that the Grain Corporation was making a large purchase for the Allies and was utilizing its knowledge of available stocks by having on the job a transportation strategist—Edward Chambers, vice president of the Santa Fe. Mr. Chambers is now assisting the Food Administration and has a remarkable “way with him.” Even before he was called to aid Mr. McAdoo, the Director General, his suggestions to the railroads had a wonderful effect in discouraging their hesitancy as to finding available cars and in clearing up congestions that look as though they never could be uncongested.

How Uncle Sam Keeps the Whip.

Ease in getting the needed car was one of the advantages enjoyed by this particular elevator after signing the voluntary agreement which ceded to the Grain Corporation the right to control storage and direct shipments and sales of all wheat bought by the proprietor.

While voluntary, this agreement is almost compulsory since railroads give priority recognition to Grain Corporation requests for cars; and elevators or mills outside the official fold must “rustle” for themselves. In return the Government guarantees the elevator proprietor against losses and protects him in every way as to price and pays him rentals for all storage space requisitioned by it. The voluntary agreement and the mandatory license certainly do the work.

All elevators, local and terminal, must take out licenses or face a shutdown. What is the power of the license? It requires the operator to lay all cards on the table as to his business dealings. For the time of the war the elevator becomes a public utility and its proprietor must furnish information as to his business at any time when required by the Grain Corporation. Each week he must make and mail promptly reports showing the amount of wheat, rye, or their derivatives, purchased, stored, and shipped.

Under present license terms, the licensee can keep on hand for only 30 days, unless he obtains a special permit, any stocks of these grains or their derivatives. He is also forbidden to contract for the sale of any product which can not be delivered within 30 days after the contract is made.

How the Wheat Was Milled.

Away went our bushel of wheat on its journey to the terminal, where it met other bushels of wheat from all parts of the territory,

that fed this market. There it was regraded for special requirements, marked for immediate milling and rolled on to a large mill in Illinois. The miller bought the wheat from the Grain Corporation, for each miller in the United States is under license also, and most of them have filled out another voluntary agreement which binds them either to purchase all supplies from the Grain Corporation or under its direct supervision. The corporation charges each miller 1 per cent of the value of the wheat he grinds to cover the costs of administering the corporation; for the \$50,000,000 capital is to be returned to the United States Treasury, unimpaired. And that is how the huge enterprise carries itself without burdening the people.

The agreement has its compensation, however, for the policy of Uncle Sam is to provide each mill with all wheat possible. To do so, every mill signing up was required to furnish an estimate of its possible milling capacity for the season. This nation-wide survey of milling capacities, when balanced against the available supply of wheat, enables the Grain Corporation to equalize supplies in a way never done before. In fact, the schedule of prices arranged for the primary markets had for an object this equalization. For instance, if the proprietor of an elevator at Maryville, Mo., 46 miles northeast of St. Joseph, and 456 miles from Chicago, desires to market wheat he has available these markets: St. Joseph, Mo., Kansas City, Mo., St. Louis, Mo., Chicago, Ill., and New York City, N. Y. To ascertain the most advantageous price for him, he would work it out on the basis of the following table:

FROM THIS TABLE YOU CAN SEE WHAT WHEAT WOULD BRING
AT FIVE DIFFERENT MARKETS IF SHIPPED FROM MARY-
VILLE, MISSOURI.

F. A. G. C. markets.	St. Joseph, Mo.	Kansas City, Mo.	St. Louis, Mo.	Chicago, Ill.	New York City.
Base price.....	\$2. 15	\$2. 15	\$2. 18	\$2. 20	\$2. 28
Rate per 100 pounds.....	.065	.095	.1175	.1475	.3005
Rate per bushel.....	.039	.055	.0705	.0885	.1803
Net price.....	2. 111	2. 095	2. 1095	2. 1115	2. 0997

Under these conditions the proprietor would probably sell at St. Joseph or Chicago, according to his inclination.

The table further illustrates the equalization of prices and indicates to what extent the miller is protected when buying wheat in any territory. Through this plan discriminations against the producer, the miller, and the consumer are eliminated so far as it seems humanly possible under a plan of such tremendous proportions.

These schedules arranged for the various markets are veritable "price dams" to prevent the overflowing of the stream of wheat at any single market. They also tend to correct many abuses preva-

lent in the past, such as cutthroat methods adopted by mills to secure supplies and indiscriminate moving of wheat to terminals.

For all practical purposes the wheat business of the country is apportioned, and whenever possible mills are supplied from wheat in the territory nearest them. This policy has for an object the saving of waste in transportation. In another way saving is made: Formerly large quantities of undergrade wheats have been difficult to dispose of on account of uncoordinated purchase of the competing mills; but under Uncle Sam's domination each bushel of wheat must now go somewhere and the poorer wheat will move just as freely as the more desirable grades. There is a use for every bushel, even the screenings.

Limiting Millers' Profits.

The Illinois miller who received the carlot containing our bushel of wheat milled it promptly and shipped its flour to a port for exportation. The miller was permitted by the Food Administration to make a fair profit, not exceeding a maximum of 25 cents per barrel on the flour and a maximum profit of 50 cents per ton on the feed-stuffs left over. All mills, however, must furnish at regular intervals to the Milling Division full statements of manufacturing costs, which are scrutinized carefully. The derivatives of this wheat the miller sold for domestic consumption, as the policy of the Government is to keep in the United States all available feedstuffs in order to encourage live-stock production.

Milling Canadian Wheat.

While our bushel was being milled a carlot of wheat reached this mill from Canada. Importation of Canadian wheat without special consent being forbidden, the mill operatives became curious and made inquiries. This wheat was part of a large supply which the Grain Corporation had brought into the United States to aid in keeping the American mills running on full time. The milling capacity of the United States has been so rapidly developed that the mills are now capable of milling more wheat than is raised in the United States. Under the policy of apportioning supplies responsibility fell upon the Grain Corporation to lower, so far as it could, the national cost of milling. It was considered sound public policy to secure the right to run through our mills such portion of the Canadian wheat movement as could be diverted to American mills. A result of this was that the milling cost, reflected in the price of flour, was reduced and an additional quantity of mill feed for American dairy use was supplied, while the product of the Canadian wheat went to the allies in condensed food form.

There was another reason. Domestic wheat was not moving from the farms as freely as the millers needed it, and shortage forced the mills to operate at a great disadvantage and, according to them, at

higher costs. That is one of the reasons assigned by millers for the rising price of bran in the weeks following the export embargo on feedstuffs.

The last journey stage of our first bushel, although considerably changed in its form, was to go as flour to port under rush orders. It now had right of way over all other classes of freight except other munitions of war. Consent of the War Trade Board being obtained, it was loaded on a ship and passed safely through the submarine field to France, where it succored the hungry.

The Other Bushel of Wheat Starts Traveling.

Now as to the other bushel of wheat. A certain Georgia miller, in need of supplies, notified the Grain Corporation and received permission to buy on the open market. About the same time our cooperative elevator manager had listed a shipment with his terminal representative—a highly reputable commission firm, also under Grain Corporation license. This firm caught wind of the Georgia order and secured permission to sell the Missouri wheat. The second bushel was among those poured into a car and hustled along to its destination. This shipment did not pass through any terminal market. It moved straight to Atlanta, where it went between the rollers of the mill.

At that time a number of large centers were threatened with flour shortages, for the farmers were busy with wheat planting for 1918 and themselves, short on labor, had not been moving wheat freely enough to satisfy the authorities. Among the cities endangered was New York. Although it never got into the news columns, that city had only a few days' flour supply available, and when matters became very acute the Food Administrator made a special order for supplies to be rushed there to relieve the situation.

Controlling the Jobber by License.

Now, the flour which came from our second bushel of wheat was rolling serenely along in another direction, but the car was diverted and received by a large wholesale jobber in New York City. This jobber also does business under a Food Administration license, but administered by the distribution division. Under license terms the jobbers must sell at a fair profit only, although the exact amount of this profit is not determined, the Food Administration reserving the right in each case to call a halt when a licensee has gone "the limit." The New York jobber took for his own, in this case, a profit of 50 cents per barrel. He sold part of this shipment to a retail merchant.

How the Jobber Polices the Retailer.

This merchant did a small business and was not licensed, but even here was another social check. For the retail merchants of the large cities and those of many small cities and towns find each morning and afternoon in the daily papers a price list for flour and other

commodities which are considered fair by the Federal Food Administrator for their State. These prices are usually arrived at through the machinery of the wholesalers' and the retailers' organizations, as nearly all of the food administrators "put it up" to the wholesalers and retailers of the grocery trade to cooperate with the Government and to submit for approval daily these fair price lists.

The retailer also discovered that the jobber who sold him this flour was keenly interested in the prices paid by the consumer. For the Food Administration has discovered an indirect means of control of the retailer by making the jobber a voluntary policeman to his customer. The jobber is licensed to sell only to traders who deal fairly, and if it should turn out that a jobber persists in doing business with retailers guilty of profiteering in staples under control the Food Administration has and may exercise the right to revoke the license of the jobber.

Since these facts and the grim determination of the Food Administration to protect the consumer became recognized, the effect on the distributing interests has been no less than marvelous. They also know that Theodore F. Whitmarsh, who is the Food Administration's division chief over this branch of distribution, is conversant with the grocery game in all its phases. Mr. Whitmarsh is president of the National Wholesale Grocers' Association.

The other part of this shipment contained our second bushel of wheat and went over to the East Side into a small bakery, which quickly made it into creamy loaves. These loaves were placed in groceries and delicatessens and the next day were eaten by hungry little boys and girls with dark eyes and big noses and quaint ways.

Since then the bakers, too, have "come under the rod," and now the standardized loaf, sold at a price based on costs that are generally known to the public, is a part of our common life in war time.

Short-circuiting the Grain Business.

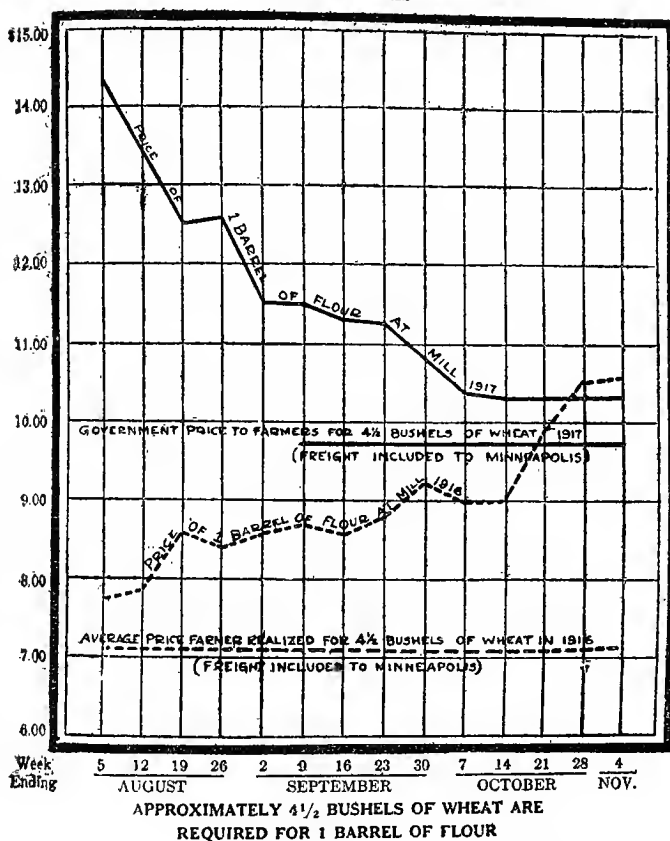
Those who love to go on in "the good old way" must view with sadness each step of the Government in making a national monopoly out of a great private opportunity. Thousands who believe in Government "hands off" are groaning over the prospects of our future national growth. But Government control has brought out these startling truths:

More people unnecessarily make their living out of wheat distribution than was suspected. Thousands and thousands of little speculators have had to turn elsewhere for a livelihood. A number of commission men have had to close shop. There are places where elevators should be built and other places where there are too many elevators. The Government, dominating the wheat market, carries its own marine insurance. Wheat handlers at terminals have had their activities restricted.

But most of all it is interesting to see how the price of flour per barrel tumbled from the time Uncle Sam took a positive hand in the matter. The Food Administration has recently completed an interesting chart on the prices of wheat and bulk flour at Minneapolis. In a statement of November 26, the Food Administration says:

The farmer received for the 1916 harvest between \$1.45 and \$1.50 per bushel for the harvest, taking the country by large and * * *. Last year he received under 20 per cent of the price of the loaf. Today he is receiving over 40 per cent of the money paid for the cash loaf, this being the result of the stabilization of prices and the total elimination of hoarding and speculation in this industry.

PRICE OF WHEAT AND BULK FLOUR AT MINNEAPOLIS



The statement reports that farmers on November 26 were receiving with freight charges included from the territory represented to Minneapolis, approximately \$9.50 for 4 1/2 bushels of wheat. The price of bulk flour at the Minneapolis mill is about \$10.25 per barrel, showing that the miller is now receiving about 75 cents per barrel, which must include both his operating expenses and profit.

During last July and August, while Congress was wrestling with itself to produce a food administration, and there was no Grain Corporation, flour production in the principal centers was 75 per cent under the same period in 1916. In September, October, and November, under the supervision of the Food Administration, flour production was 114 per cent of the same period in 1916. What this means in the great national situation, with depleted domestic flour reserves and clamoring foreign buyers, can hardly be over-emphasized, when movement of wheat into primary markets has been hardly half that of a year ago, or 100,000,000 bushels less. It was nothing short of master strategy.

The total number of bushels purchased by the Grain Corporation from the time it commenced activities to February 1, is 97,276,145.59. Arranged by months the purchases in bushels were: September, 7,841,209.20; October, 19,359,646.59; November, 30,920,074.26; December, 21,456,249.06; and January, 17,698,966.08.

During July and August our flour exports were about the same as in the same two months of 1916; but in September, October, and November, the exportation was 50 per cent larger than a year ago. So the Grain Corporation has discharged our obligations to the allies, and restored our flour reserves, which is the larger aspect of the question. Other problems of lesser magnitude it is solving day by day.

A Lesson In Social Control.

After the war shall we return to the old wasteful ways? That question must be uppermost in the minds of grain students. Let us now look at this great network of grain distribution as President Barnes, of Uncle Sam's corporation, must surely see it. Barnes, himself a big man and a leading figure in the commercial grain world, will probably emerge as the greatest authority on grain trading after the war. Mr. Barnes believes in the efficiency of private business. He believes that the trade will be quick to recognize the national disharmonies that in the past permitted unregulated piracy. He must see that he has it within his power to effect even greater revolutions in grain marketing. He could do this by rulings—iron-clad rulings—which would soon thin the ranks of grain handlers and distributors. If he believed Government control were to be our nation's future policy, Mr. Barnes might issue some of those orders right now. He would undoubtedly arrange for the construction of storage space where it is needed and dispose of the needless elevators where duplication prevails. He would so control distribution that the fewest possible persons at the smallest possible expense would do the work.

But Mr. Barnes does not conceive his mission to be reform. He was asked by the Food Administrator to undertake a war job, to speed up grain movement and milling, so that our Nation would be stronger

and more efficient and our citizens would not suffer. So he deals with the agencies of trade as he finds them, and expects them "to deliver the goods," and to straighten themselves out. If they can not, the weaker ones will perish. But if you dig a little into his heart you will find that Mr. Barnes is very human and he knows that the process of building an agency of State socialism such as he might make of the Grain Corporation would entail some suffering on the part of well-meaning citizens. And behind him is the Food Administrator, who also is very human; and both of them are business men who feel keenly the responsibility of great power placed in their hands.

Index No: E--14.



GENERAL INDEX NUMBERS OF FOOD PRICES ON A · NUTRITIVE VALUE BASE.

By RAYMOND PEARL, *Chief of the Statistical Division of the United States Food Administration.*

TABLE OF CONTENTS.

	Page.
Introduction.....	1
Number of commodities.....	2
Producers' prices.....	2
Wholesale prices.....	3
The computation of prices.....	3
Producers' prices.....	3
Wholesale prices.....	3
Weighting factors.....	3
List of tables:	
Table I.—Quotations, description, and sources of commodities (with notes).....	4
Table II.—Figures used as a basis for calculations of weighting factors for producers' index.....	6
Table III.—Figures used as a basis for calculations of weighting factors for index of wholesale prices of food.....	7
Table IV.—Producers' price index.....	8
Table V.—Wholesale price index.....	8
Table VI.—Relative producers' index.....	8
Table VII.—Relative wholesale index.....	8
Discussion.....	11

INTRODUCTION.

In forming a judgment of the general trend of commodity prices as a whole it has long been a common practice among economists to resort to the device of price indices. An index number is formed by combining by one or another mathematical method the separate prices of the commodities which are to be studied as a group. The resulting figure is frequently a pure number, not expressed in dollars and cents. Its purpose obviously is to show trends, not absolute prices.

The significance in a philosophical sense of price index figures depends primarily on the adequacy of the mathematical reasoning used in the passage from the absolute individual-commodity prices to the final index. The accuracy of an index number is, of course, dependent upon the accuracy of the price data used. Various methods have been employed in the calculation of index numbers, leading to varying degrees of significance in the end result.*

* For a very complete and thorough review of the history of index numbers cf., Mitchell, Wesley C., *Index Numbers of Wholesale Prices in the United States and Foreign Countries*. Bulletin U. S. Bur. Labor Stat. No. 173, pp. 1-329, 1915.

It is clear that the real desideratum in an index number would be a final figure which would include in its make-up a just and equitable weighting of the several individual component prices in proportion to the relative significance of the commodities themselves in the life of the nation. For example, to take the case of food, it plainly is of much less consequence to the nation to have the price of eggs advance 20 per cent than it is to have the price of wheat advance 1 per cent, for the simple reason that wheat means so vastly much more than do eggs in keeping the nation adequately nourished.

Working on this principle we have devised two new general price indices, one indicating trend of prices received by the *producer* of the basic food staples for his products, the other indicating the trend of *wholesale* prices.

The general plan followed in calculating these indices is to weight the quoted prices of each commodity by a factor proportional to the nutritive value of the normal production or crop of that commodity, the total energy content as measured in calories being taken as the measure of nutritive value. Starting from this basic point further allowances have to be made, of course, for the differences in units in which different commodity prices are quoted, and for secondary (animal) production.

A first approximation to a nutritive base price index was published some months ago in a preliminary way.¹ The present paper is a careful revision of the whole matter, with detailed data as to methods, weighting, etc.

NUMBER OF COMMODITIES.

We shall deal here with two general price indices, as follows: (1) Based on the prices received by producers in the United States, and (2) based on wholesale prices of food.

There are 20 commodities in the list used for the index of producer's prices and 26 in the list used for the index of wholesale prices. The lists follow.

Producer's prices are from Monthly Crop Reports of United States Department of Agriculture, quoted on the first of each month except in the case of live stock, sweet potatoes, onions, cabbage, milk, apples, peanuts, and beans, which are quoted on the fifteenth of the month.

Wheat.	Potatoes.	Chickens.
Corn.	Sweet potatoes.	Hogs.
Oats.	Buckwheat.	Beef cattle.
Rye.	Apples.	Sheep.
Barley.	Butter.	Peanuts.
Cabbage.	Eggs.	Beans.
Onions.	Milk, fresh.	

Prices (previous to January, 1918) on wheat, corn, oats, rye, barley, cabbage, onions, potatoes, sweet potatoes, buckwheat, and beans from the United States Department of Agriculture Monthly Crop Report for December, 1917, volume 3, No. 12, pages 129 and 130.

Prices (previous to January, 1918) on hogs, cattle, and sheep from Monthly Crop Reports for January, 1917, volume 3, No. 1, pages 5, 6, and 7, and for February, 1918, volume 4, No. 2, pages 13, 14, and 15.

¹ Pearl, R. A New Price Index. U. S. Food Administration, April, 1918, pp. 1-7.

Prices on butter, eggs, chickens, milk, and apples from manuscript furnished by Department of Agriculture.

Prices on peanuts from Monthly Crop Reports for 1917, volume 3, Nos. 8-12; for 1918, volume 4, Nos. 1-6, and manuscript.

Current prices on all commodities from Monthly Crop Reports for 1918, volume 4.

Wholesale prices are those in the weekly report on wholesale prices of the United States Food Administration.¹ The descriptions and sources of the commodities used for the index follow in Table 1.

THE COMPUTATION OF PRICES.

Producer's prices.—These prices are published monthly by the United States Department of Agriculture and are for the 1st of the month and in some cases the 15th. In grouping these, the quotations for the 1st of the current month and the 15th of the previous month were used together, e. g., quotations for May 1 and April 15 were called April prices.

Wholesale prices.—A weekly range of prices has been obtained for all the commodities on the list from the sources as previously tabled. In most cases the Saturday quotations have been used, because the majority of the weekly trade papers close their columns on Saturday, and for the sake of uniformity quotations from the dailies were also taken on Saturday.

The weekly quotations on each commodity are averaged for each month.

In most cases prices are quoted from the same source and for the same grade of commodity throughout the entire period. In a few cases where it was impossible to get a consecutive story on any desired grade, several quotations were spliced. This was done, however, only with the advice and approval of the commodity experts in the Food Administration having to do with the commodities concerned. These changes are noted in connection with the table of descriptions and sources. In a few cases, also, the particular grade of commodity was out of the market for one month or perhaps two. In such an instance the quotations (1) immediately preceding and (2) following the gap were averaged. A careful inspection of the trend of prices at the time and at corresponding periods of other years shows this to be fairly accurate, so that in each month we have the same number of commodities.

WEIGHTING FACTORS.

The distinguishing characteristic of these price indices lies in the weighting factors used. These factors are based on food value.

The base period is for three fiscal years before the war (except in a few cases where crop years were used). The food value of the average production of each commodity during that period is expressed in calories and the value of wheat so expressed taken as 100. The value of the other commodities is each in turn related to the value of wheat. The resulting relative figures were divided by the number

¹ This report is issued in manuscript to certain members of the Food Administration, but is not published.

of pounds in the unit used for price quotations, e. g., wheat flour is quoted by the barrel, so the relative figure 61.69 was divided by 196.

The absolute wholesale index number for any month was obtained by the following formula:

$$I = \frac{(a_1 \times b_1) + (a_2 \times b_2) + \dots + (a_n \times b_n)}{b_1 + b_2 + b_3 + \dots + b_n}$$

where I is the absolute wholesale index number, a_1 is the quoted wholesale price, in whatever unit given, of a commodity denoted by the subscript 1, and b_1 is the weighting factor (as given in the last column of Table III) for the same commodity 1. In other words, the absolute wholesale index number is the weighted average price per pound of the several commodities entering into the index, when the weighting of each *quoted* commodity price is in proportion to the food value, expressed in calories, of the average production of that commodity in the three years preceding the war. The technical student in examining these indices critically should not forget that the necessary adjustment for differences in the units on which prices of different commodities are quoted (e. g., barrel, bushel, hundred-weight, pound, etc.) is incorporated in the weighting factor, to the end of simplicity in computation. This accounts for the differences in the numerical values of weighting factors which at first glance might seem to be without sense or reason. For example, the weighting factor for peanuts is 1.5396 (Table III) while that for wheat flour is 0.3147. Before one concludes that 5 times the weight is given to the peanut crop as to the flour output he should recall that the *quoted* price of flour is on a unit (the barrel) 196 times as large as that on which the price of peanuts (the pound) is quoted.

The absolute producers' index number was obtained by the same formula as the wholesale, with, of course, appropriate substitutions of the producers' prices and weighting factors in place of the wholesale.

Most of the food values used are taken from "The Chemical Composition of American Food Materials," by W. O. Atwater and A. P. Bryant. Food values for the grains are from "Feeds and Feeding," by Henry and Morrison.

The list of the production figures and weighting factors with the source of the information follows in Tables II and III.

TABLE I.—Quotations, descriptions, and sources of prices.

Commodity.	Description. ¹	Price.	Taken.	Source.	Unit.	Calculations.
Wheat flour.	100 per cent spring, in 98-pound cottons. ²	Mill price f. o. b. Minneapolis.	Saturday..	Northwestern Miller.	Bbl..	Weekly quotations averaged for the month.
Rye flour....	In jute, car lots.	Jobber's price f. o. b. New York.	...do.....	...do.....	Bbl..	Do.
Oatmeal....	Carload lots, in barrels.	Jobber's price to retailer f. o. b. New York.	Saturday issue.	New York Commercial.	Cwt..	Do.
Cornmeal...	White, in bulk.	Mill price f. o. b. Terre Haute.	Saturday..	Furnished by the mill.	Cwt..	Do.
Sugar.....	Granulated, refined in 100-pound bags.	Refiner's price, net, f. o. b. New York.	...do.....	Weekly Statistical Sugar Trade Journal.	Cwt..	Weekly quotations averaged for the month; current price fixed.

¹ All descriptions as written are for current quotations.

² Quotations were taken on "standard patent" until issue of Jan. 2, 1918; on "standard war flour" until issue of Mar. 27, 1918, and standard 100 per cent subsequently.

TABLE I.—*Quotations, descriptions, and sources of prices—Continued.*

Commodity.	Description.	Price.	Taken.	Source.	Unit.	Calculations.
Potatoes, United States average.	White, bulk or sacked.	Wholesaler's price f. o. b. New York and Chicago. ¹	Saturday issue.	Journal of Com- merce and Daily Trade Bulletin.	Cwt..	Average of New York and Chi- cago weekly quotations av- eraged for the month. Do.
Onions.....	Yellow, bulk or sacked.	...do.....	...do.....	Producer's Price Current and Daily Trade Bulletin.	Cwt..	Do.
Beans, navy or pea.	Michigan.....	Jobber's price f. o. b. Michigan.	Saturday..	Furnished by bean jobbers.	Cwt..	Weekly quota- tions averaged for the month.
Peanuts.....	No. 1 and No. 2. ²	F. o. b. Norfolk.	...do.....	Virginian Pilot..	Lb...	Weekly average of range of No. 1 and No. 2 av- eraged for the month.
Rice.....	Honduras- cleaned do- mestic.	New Orleans.....	...do.....	New Orleans Board of Trade.	Lb...	Weekly quota- tions averaged for the month. Do.
Milk, evap- orated.	In 48-16 ounce tins.	Manufacturer's price delivered New York.	...do.....	Furnished by the manufac- turer. ³	Case.	Do.
Milk, con- densed.	Sweetened, in 48-14 ounce tins.	...do.....	...do.....	...do.....	Case.	Do.
Eggs.....	Fresh, firsts....	Wholesaler's price f. o. b. New York. ¹	Saturday issue.	Producer's Price Current (Urner - Bar- ry).	Doz..	Taken from Ur- ner-Barry Sta- tistical Review of New York Market.
Butter.....	Fresh, 92 score.	...do. ¹	...do.....	...do.....	Lb...	Do.
Cheese.....	Fresh, flats, av- erage run.	...do.....	...do.....	...do.....	Lb...	Weekly quota- tions averaged for the month. Do.
Margarine..	Standard high- grade in 60- pound tubs.	Manufacturer's price, net, f. o. b. Chicago.	Saturday..	Furnished by the manufac- turer.	Lb...	Do.
Lard.....	Leaf, in 100- pound cans.	Packer's price f. o. b. Chicago or branch house.	...do.....	National Provi- sioner.	Cwt.	Do.
Ham.....	Loose.....	...do.....	Saturday issue.	Daily Trade Bul- letin (Heward, Bartels).	Cwt.	Do.
Bacon.....	Breakfast, loose lots.	...do.....	...do.....	...do.....	Lb.	Do.
Carcass beef.	Good native steers.	...do.....	Saturday..	National Provi- sioner.	Lb.	Do.
Mutton.....	Legs.....	...do.....	...do.....	...do.....	Lb.	Do.
Fowl.....	Fresh, western corned.	Wholesaler's price f. o. b. New York. ¹	Saturday issue.	Producer's Price Current (Urner-Barry).	Lb.	Taken from Urner-Barry Sta- tistical Review of New York Market.
Peas, canned	Standard Early June No. 2, in case.	Canner's price f. o. b. Balti- more.	Saturday..	Canning Trade..	Doz.	Weekly quota- tions averaged for the month. ⁴
Tomatoes...	Standard No. 3, in case.	...do.....	...do.....	...do.....	Doz.	Do. ⁴
Salmon.....	Alaska Pink Tail No. 1, in case.	Canner's price f. o. b. coast.	...do.....	...do.....	Doz.	Do. ⁴
Sardines....	Oil Keyless 100, ½ in case.	Canner's price f. o. b. East- port.	...do.....	New York Jour- nal of Com- merce.	Doz.	Do. ⁴

¹ Wholesaler, i. e., the receiver of the country produce.² Previous to Jan. 25, 1913, peanuts No. 1 and No. 2 grades were called "strictly prime" and "prime," respectively.³ Current prices fixed on competitive market conditions.⁴ Based on the views of the Federal Trade Commission of reasonable profit and the Food Administration's valuation of reasonable crop-hazard insurance. U. S. F. A. Canned Goods Division. Bulletin No. 38.

TABLE II.—*Figures used as basis for calculations of weighting factors for producers' index.*

Commodity.	Prewar average production.	Source of production figure.	Calories per pound.	Total calories (000,000 omitted).	Relative to wheat.	Divisor to convert relative figure to pound basis.	Weighting factor.
Wheat.....bushel..	704,995,000	Yearbook of United States Department of Agriculture for 1915, p. 421.	1,644	69,540,707	100.00	60	1.6667
Corn.....do....	2,701,074,000	Yearbook of United States Department of Agriculture for 1915, p. 412.	1,706	258,049,799	371.08	56	6.6264
Oats.....do....	1,154,134,000	Yearbook of United States Department of Agriculture for 1915, p. 432.	1,525	56,321,739	80.99	32	2.5310
Rye.....do....	36,721,000	Yearbook of United States Department of Agriculture for 1915, p. 447.	1,657	3,407,415	4.90	56	.0875
Barley.....do....	187,418,000	Yearbook of United States Department of Agriculture for 1915, p. 440.	1,601	14,402,698	20.71	48	.4315
Cabbage.....tons..	500,000	Estimate on basis of production for later years from Monthly Crop Report, Nov. 13, 1915, p. 73; September, 1916, p. 92; December, 1917, p. 132.	141	141,000	.20	100	.0020
Onions.....bushels..	14,343,000	See Table III.....	205	167,598	.24	57	.0042
Potatoes.....do....	348,303,000	Yearbook of United States Department of Agriculture for 1915, p. 456.	310	6,478,436	9.32	60	.1553
Sweet potatoes...do....	56,358,000	Yearbook of United States Department of Agriculture for 1915, p. 460.	460	1,399,933	2.01	54	.0373
Buckwheat.....do....	16,877,000	Yearbook of United States Department of Agriculture for 1915, p. 451.	1,463	1,037,024	1.49	42	.0355
Apples.....do....	198,217,000	Yearbook of United States Department of Agriculture for 1916, p. 635.	220	2,093,172	3.01	48	.0627
Butter.....pounds..	994,650,610	See Table III.....	3,545	3,526,036	5.07	1	5.0705
Eggs.....dozen..	1,875,000,000	do.....	635	1,786,875	2.57	1.5	1.7130
Milk.....pounds..	34,730,640,000	See Table III, note (6), for calculations.	325	11,287,458	16.23	8.6	1.8874
Chickens.....do....	1,465,405,000	See Table III.....	775	1,135,689	1.63	1	1.6331
Hogs.....do....	8,943,428,000	do.....	2,465	22,045,551	31.70	100	.3170
Beef cattle.....do....	6,595,839,400	do.....	935	6,167,100	8.87	100	.0887
Sheep.....do....	744,610,887	do.....	1,255	934,487	1.34	100	.0134
Peanuts.....bushels..	22,000,000	do.....	2,212	1,070,674	1.54	22	1.5396
Beans.....do....	11,251,160	do.....	1,605	1,083,487	1.56	60	.0260

TABLE III.—*Figures used as basis for calculation of weighting factors for index of wholesale prices of food.*

Commodity.	Prewar average production.	Source of production figure.	Calories per pound.	Total calories (000,000 omitted).	Relative to wheat.	Divisor to convert relative figure to pound basis.	Weighting factor.
Flour, wheat...barrels..	132,658,500	Yearbook of United States Department of Agriculture for 1915, p. 421. ¹	1,650	42,901,759	61.69	196	0.3147
Flour, rye.....do.....	1,775,286	Census of Manufactures for 1914, p. 47. ²	1,630	567,168	.82	196	.0042
Oatmeal.....pounds..	336,000,000	Questionnaire sent to oat millers by the Statistical Division of Food Administration.	1,860	624,960	.90	100	.0090
Cornmeal.....barrels..	21,527,000	Census of Manufactures for 1914, p. 47. ²	1,545	6,508,172	9.36	196	.0936
Sugar ³ pounds..	7,913,706,000	Weekly Statistical Sugar Trade Journal, Willet & Gray, for Jan. 3, 1918.	1,860	14,719,493	21.17	100	.2117
Potatoes.....bushels..	348,303,000	Yearbook of United States Department of Agriculture for 1915, p. 456.	310	6,478,436	9.32	60	.0932
Onions.....do.....	414,343,000	Census of 1910, Vol. V, p. 663.	205	167,598	.24	100	.0024
Beans, navy.....do.....	411,251,160	Census of 1910, Vol. V, p. 623.	1,605	1,083,487	1.56	100	.0156
Peanuts.....do.....	22,000,000	Census of 1910, Vol. V, p. 628. ⁵	2,212	1,070,674	1.54	1	1.5396
Rice, Honduras, pounds.	683,240,000	Yearbook of United States Department of Agriculture for 1915, p. 485.	1,630	1,113,681	1.60	1	1.6015
Milk, evaporated.do...	475,000,000	Census of Manufactures for 1914, p. 33.	780	370,500	.53	48	.0111
Milk, condensed.do....	250,000,000	Census of Manufactures for 1914, p. 33.	1,520	380,000	.55	42	.0130
Eggs, fresh.....dozen..	41,875,000,000	Estimate on basis of Census of 1910, Vol. V, p. 507.	635	1,786,875	2.57	1.5	1.7130
Butter.....pounds..	994,650,610	(⁶).....	3,545	3,526,036	5.07	1	5.0705
Cheese.....do.....	356,000,000	Census of Manufactures for 1914, p. 33.	1,950	694,200	1.00	1	.9983
Oleomargarine.do....	136,344,188	Tax paid withdrawals, Internal Revenue report	3,525	480,613	.69	1	.6911
Lard.....do.....	41,200,000,000	Census of Manufactures for 1914, p. 36.	4,220	5,064,000	7.28	100	.0728
Ham.....do.....	1,252,000,000	Census of 1910, Vol. X, p. 346. ⁷	1,644	2,058,288	2.96	100	.0296
Bacon.....do.....	1,163,000,000	do.....	2,685	3,122,655	4.49	1	4.4904
Carcass beef.....do....	6,595,839,400	Census of 1910, Vol. X, p. 343. ⁷	935	6,167,100	8.87	1	8.8683
Mutton legs.....do....	744,610,887	do.....	1,255	934,487	1.34	1	1.3438
Fowls, fresh.....do....	1,465,405,000	Census of 1910, Vol. V, p. 408. ⁸	775	1,135,689	1.63	1	1.6331
Canned peas.....cans..	8,826,284	Census of Manufactures for 1914, p. 42.	255	67,521	.10	15	.0065
Canned tomatoes.do....	16,200,302	do.....	105	86,753	.13	25.5	.0049
Canned salmon.....do....	5,569,953	Census of Manufactures for 1914, p. 40.	680	181,803	.26	12	.0218
Canned sardines.do....	5,012,199	do.....	950	47,616	.07	20.3	.0034

¹ From the average total production of wheat for 1911, 1912, and 1913, the amount needed for seed was subtracted, also 5 per cent of the remainder for waste in storage and transit. This was reduced to barrels of flour—4.5 bushels of wheat required to produce 1 barrel of flour.

² Obtained by interpolation from the production for 1909 and 1914 in Census of Manufactures for 1914.

³ Consumption figures including imports from Hawaii, Porto Rico, Philippines, Cuba, and foreign countries.

⁴ Production figures are for calendar year 1909. All others, except where explanation is given in footnote, are average for 1911, 1912, 1913 (fiscal year).

⁵ Obtained by estimate from 1899 and 1909 figures in census 1910 and from 1916 figures from Department of Agriculture.

⁶ Estimated from number of milk cows in the country, 1911, 1912, 1913, as published by the United States Department of Agriculture in Monthly Crop Report for February, 1918, Vol. IV, No. 2, p. 9. Estimated quantity of milk to be obtained from these cows was used as a basis for calculations as to amount of butter produced, i. e., about 60 per cent of butter fat in milk produced in census year went into making of butter. The latter figures were obtained from abstract of census for 1910, p. 344. Milk used in making butter was deducted in deriving the weighting factor for milk.

⁷ Production figures for meat were obtained from the inspections for slaughter, the ratio of total to inspected slaughter being taken as the same as in the census year. Production of ham and bacon was taken as being the same percentage of total pork and lard as in 1909.

⁸ Fowls: Number on farms in 1910 census, on basis of 3 pounds dressed weight per fowl.

TABLE IV.—*Absolute producer's price index.*

Months.	1911	1912	1913	1914	1915	1916	1917	1918
January.....	47.2	53.0	46.2	54.2	59.0	55.4	76.3	111.1
February.....	45.6	53.4	47.2	54.3	59.2	55.4	80.4	112.1
March.....	45.2	54.8	47.9	54.3	58.5	58.3	87.9	111.9
April.....	45.1	59.4	49.0	54.5	60.1	58.7	107.7	112.4
May.....	45.4	60.1	49.3	55.0	59.6	56.7	110.9	111.8
June.....	47.0	58.2	50.6	54.3	56.8	58.1	108.8	.....
July.....	49.6	55.8	51.9	54.9	57.3	60.6	117.4	.....
August.....	51.0	54.6	55.4	59.1	55.0	64.8	110.2	.....
September.....	51.7	53.0	56.1	58.6	52.9	66.6	112.4	.....
October.....	51.5	50.6	54.6	55.6	51.9	69.7	105.5	.....
November.....	51.2	46.8	54.8	54.3	50.2	72.9	100.8	.....
December.....	51.5	46.4	54.6	55.3	52.4	72.5	104.8	.....

TABLE V.—*Absolute wholesale price index.*

Months.	1911	1912	1913	1914	1915	1916	1917	1918
January.....	29.7	32.6	31.4	30.9	34.7	35.1	44.7	58.3
February.....	28.4	31.5	31.0	30.3	35.0	35.0	46.7	58.4
March.....	27.5	31.2	30.9	29.7	33.6	35.7	48.2	54.6
April.....	26.8	31.9	30.8	28.9	34.1	36.8	54.0	55.3
May.....	27.0	31.8	30.0	29.3	34.1	36.8	59.2	54.9
June.....	27.4	31.0	30.2	29.9	32.6	36.1	56.8	.....
July.....	28.6	30.5	30.4	30.5	32.6	36.9	54.4	.....
August.....	30.0	30.5	30.6	34.1	31.3	38.8	56.6	.....
September.....	31.1	31.6	31.3	35.7	30.4	40.5	57.6	.....
October.....	31.9	32.2	30.9	34.4	32.1	43.8	57.6	.....
November.....	32.3	32.3	31.8	34.8	33.5	45.6	57.7	.....
December.....	32.6	32.5	31.6	34.2	35.0	44.2	58.4	.....

TABLE VI.—*Relative producer's price index.*

Months.	1911	1912	1913	1914	1915	1916	1917	1918
January.....	92	103	90	106	115	108	149	217
February.....	89	104	92	106	115	108	157	218
March.....	88	107	93	106	114	114	171	218
April.....	88	116	96	106	117	114	210	219
May.....	88	117	96	107	116	110	216	218
June.....	92	113	99	106	111	113	212	.....
July.....	97	109	101	107	112	118	229	.....
August.....	99	106	108	115	107	126	215	.....
September.....	101	103	109	114	103	130	219	.....
October.....	100	99	106	108	101	136	206	.....
November.....	100	91	107	106	98	142	196	.....
December.....	100	90	106	108	102	141	204	.....

TABLE VII.—*Relative wholesale price index.*

Months.	1911	1912	1913	1914	1915	1916	1917	1918
January.....	97	106	102	101	113	114	146	190
February.....	92	103	101	99	114	114	152	191
March.....	90	102	101	97	109	116	157	178
April.....	87	104	101	94	111	120	179	180
May.....	88	104	98	96	111	120	193	179
June.....	89	101	98	97	106	118	185	.....
July.....	93	99	99	99	106	120	177	.....
August.....	98	100	100	111	102	127	184	.....
September.....	101	103	102	116	99	132	188	.....
October.....	104	105	101	112	105	143	188	.....
November.....	105	105	104	113	109	149	188	.....
December.....	106	106	103	112	114	144	191	.....

In order to facilitate comparison between producers' and wholesale indices, the absolute figures for both have been changed to relative figures in Tables VI and VII. The base for the transposition has been taken as the prewar three-year average of the absolute figures (1911, 1912, and 1913). The average absolute producers' index for these three years, which is 51.3, is taken as the base 100 for the relative producers' index figures, and each month's absolute producers' index is reduced to this base in Table VI, being larger or smaller than 100, according as the absolute figure for the same month is greater or less than 51.3. In the same way the absolute wholesale index figures are reduced to relative on the basis of the three-year prewar average (1911-1913, inclusive) wholesale index. The average absolute wholesale index for these three years is 30.66, and that figure is taken as the base 100 for the relative wholesale index figures given in Table VII.

From these relative figures one can read off percentage changes in the producers' or wholesale price level directly. They show in each case the percentage change which has occurred in the price level *relative to its own prewar base*, which is taken as 100. If one wishes to read percentage changes, he need only mentally take the difference between the figure in Table VI or VII and 100. For example, one might ask, How much higher were producers' prices in May, 1917, than they were before the war? The May, 1917, relative producers' index (Table VII) was 216; therefore the general level of producers' prices was 116 per cent higher in that month than it averaged to be during the three years preceding the war.

The relative indices given in Tables VI and VII are shown graphically in figure 1.

The discussion of this diagram and the figures on which it is based will follow in the next section of the paper. There is, however, one point which should be explained here as preliminary to the detailed discussion. To many persons not accustomed to dealing with relative figures, it will be perplexing to see that at various times in the period covered by the diagram the producers' line lies above the wholesale line. The immediate inclination of the mind is to the thought that wholesale prices must always be higher than producers' prices, and that consequently it is absurd to show the producers' line higher than the wholesale. It is, of course, true that wholesale prices are always higher than producers' prices, but the conclusion as to the absurdity of the diagram or the index figures on which it is based does not follow at all. The point is that we are now dealing with *relative* price index figures, not *with absolute prices* in dollars and cents. They show, on the one hand, how the price level of the producers' returns has changed, in proportion to the prices he was getting on the average for three years before the war, and, on the other hand, they show how the wholesale price has changed in comparison with what it was before the war. Now, it is not only easily conceivable, but is the fact, that producers' prices might have gone up above what they were before the war more than wholesale prices have increased as compared with what *they* were before the war. For example, suppose wheat to have brought the farmer \$1 per bushel before the war and \$2 now. The increase is 100 per cent. Suppose flour to have sold at wholesale for \$6 per barrel before the war and at \$10 per barrel now. The price increase would be 66⅔ per cent. Or, on these figures,

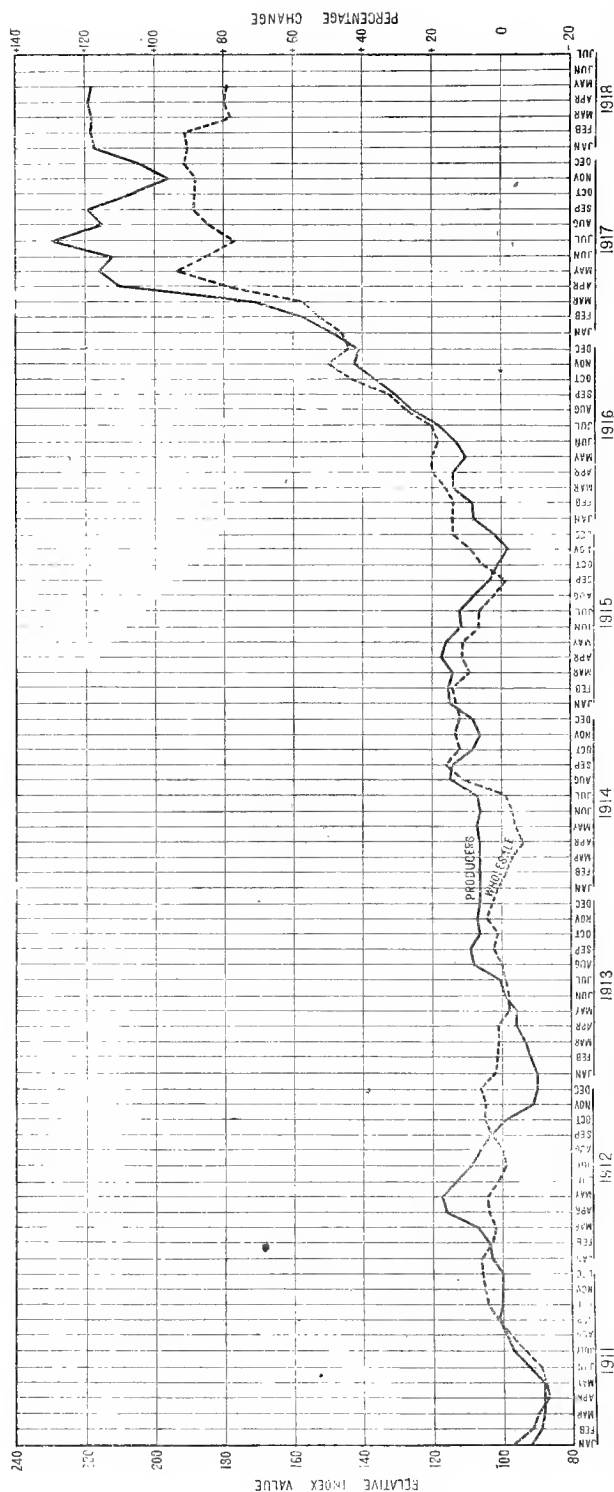


FIG. 1.—Relative producers' (solid line) and wholesale (dash line) price indices weighted on the basis of the nutritive value of commodities. The diagram is not extended to base zero (on the y axis), for the reason that in plotting relative figures, such as these, the true and correct base is 100, not zero. To facilitate reading percentage changes directly, there has been put on the right-hand margin a scale in which 100 is taken as zero, and percentage deviations, plus or minus, from that base may be read directly, without the necessity of mentally taking the difference between the plotted figure and 100.

which are used merely by way of illustration and are not the actual prices, the farmer's price on wheat would have increased *relatively* 33½ per cent more over the prewar price than the wholesale price of flour did. But this would not mean that the price of flour was less now, in dollars and cents, than the price of wheat.

DISCUSSION.

In the price indices presented in this paper two novel points are involved. In the first place, we have here general price indices in which the raw prices are weighted in forming the index numbers on what is essentially a physiological basis. In food price index numbers hitherto devised weighting has either been lacking entirely or has been based upon some sort of commercial factor, such as, for example, the amounts of the several commodities entering into trade or exchange. This latter method is the one by which the wholesale price index of the Bureau of Labor Statistics is weighted.¹ Here the basis of the weighting is the relative physiological significance of the several food commodities in the nutrition of the nation. It is obviously a matter of great economic and social concern to a nation if an inordinate rise occurs in the price of some staple food commodity which, in a physiological sense, is one of the mainstays of its continued existence as a nation. Such an event will at once mean that large portions of the population will surely be undernourished, because of economic inability to buy freely of that commodity which forms an essential and basic portion of their dietary. On the other hand, it does not particularly matter either socially or economically if there is a considerable rise in the price of some food material that contributes only an insignificant amount to the total nutritional intake of the nation. In the physiological price indices here presented we have a picture, worked out with critical attention to the soundness of each step taken, of the changes in the price level of the principal foodstuffs over a period of years, from the point of view of the contribution of each of these foods to our national physiological needs. The nutritional significance of each commodity is assumed to be sufficiently represented by its energy content measured in calories. If one must take a single figure as an index of nutritional worth, the energy content is unquestionably the best one to use. Everyone, of course, understands that it does not tell the whole story, but as a general indicator of relative nutritional worth of the different foodstuffs it is obviously better than either the protein content, or the fat content, or the carbohydrate content.

The second point of novelty in the present paper is that we have for the first time general index numbers of producer's prices on the one hand and wholesale prices on the other hand weighted *on the same basis* and on that account strictly comparable with one another. We have hitherto lacked data for comparisons at once exact and general between farmers' prices and middlemen's prices. The physiological basis of weighting here used supplies the needed common denominator. It would appear that one of the chief advantages brought out by the present index numbers is that by the use of this

¹ Cf. the account of this index by Meeker, R., in Bulletin U. S. Bureau Labor Stat. No. 181, pp. 239-256, and also Mitchell, W. C., loc. cit.

system of weighting one can put all food prices, whether producer's, jobber's, wholesaler's, retailer's, or consumer's, into indices which will be strictly comparable one with another.

Turning now to the discussion of the results as set forth in Tables VI and VII and graphically in figure 1, the thing which strikes one first is the relatively greater stability of wholesale as compared with producer's food prices prior to 1916. The fluctuations of the wholesale price index during the years 1911 to 1915, inclusive, are plainly less violent in character than those in the producer's price index. This difference is probably to be regarded as a very fair measure of the effect upon prices not of competition in the distributing trades, but of a factor essentially diametrically opposite to competition, namely, organization. The jobbing and wholesale trades are to a considerable extent organized, and to just that extent operate as units in the general economic scheme of things. In comparison with those trades the farmer is almost completely lacking any organization in an economic sense. The natural and logical result is that his received price level fluctuates considerably more than does the wholesaler's.

It is commonly asserted that this lack of organization works to the economic disadvantage of the farmer as a class. The results of this study do not give that large and unequivocal degree of support to such a point of view as might have been expected. It is true that when the general level of prices goes down the producer's prices may, because of lack of effective organization, go relatively lower than the wholesaler's, but this is more than compensated for in the long run by the fact that when the general trend of the curve is upward the farmer's prices tend to go a great deal higher relatively. The chief disadvantage so far as concerns prices that the farmer appears to labor under from lack of economic organization is in respect of the time factor. He is noticeably slower in getting under way in any general change of price levels. Thus when the general rise in the level of food prices incident to the war began in the latter part of 1915 the farmer was two months later in getting off the mark than the wholesaler (cf. fig. 1). But the lack of alacrity in starting was more than compensated for by the vigor and persistence of the climb once it was under way.

A detailed analysis of what has occurred in food price levels since May, 1917, is of particular interest, because in that month Mr. Herbert Hoover came to Washington at the request of the President to take charge of the food situation. One of the chief reasons which prompted the request was obviously the inordinately high levels which food prices had reached and the absence of any indication that, failing adequate organization and control of the matter, prices would not continue to advance for an indefinite future period or at least so long as the war lasted. Immediately upon his arrival in May, 1917, Mr. Hoover began, without specific authority of legislation, but with the support and approval of the President, the attack on the problem of food prices. What has been the result?

The first and most obvious result was that the rise in the prices of staple foodstuffs which had been continuous and at an ever increasing rate since the late autumn of 1915 came abruptly to an end so far as wholesale prices are concerned. In the case of producers' prices this rise has, to be sure, continued with some fluctua-

tions, but at a generally much less rapid rate than prevailed in 1916 and 1917.

During the 12 months from May, 1917, to May, 1918, there were fluctuations in both producer's and wholesale index numbers. As in prewar times these fluctuations were more violent in the producer's index than in the wholesale. The highest point reached by the wholesale index number was 193 (relative figure) in May, 1917. In May, 1918, the wholesale index number was 179, a decline of 14 points. This means that the general level of wholesale prices of foods is 14 points *lower* now than it was a year ago when the work of the United States Food Administration began. Taking the same months of comparison the general level of producers' received prices was 2 points *higher* in May, 1918, than in May, 1917. It has been during the past year considerably higher than this in particular months.

These percentage changes are somewhat smaller than those shown in our first preliminary report on these physiological price index numbers. The differences are due simply to the fact that on the present more critical and thorough basis a considerable refinement of the weighting factors has been effected. In particular there has been eliminated double weighting of a raw and derivative product. It should of course be understood that the values of the index numbers here given are definitive and should replace those of the preliminary report.

We see in the history of producers' and wholesale prices during the past year an occurrence which would in normal times be regarded as an economic miracle. The wholesale prices of foodstuffs have been significantly lowered while the price level for the basic food raw materials on the farm was going higher. This result has been accomplished by the elimination to a very large degree of wasteful practices and profiteering in the food distributing and manufacturing industries. The net result shows with great clearness one phase of the economic benefit which the consumer has derived from the activities of the Food Administration, without economic detriment to the farmer.



The Food Administration's Relations With Hog Producers



REPRINTED FROM THE CONGRESSIONAL
RECORDS OF FEBRUARY 24-25, 1920.

AGRICULTURAL INTERESTS.

Mr. HENDERSON. Mr. President, on February 20, at the request of the Senator from Oklahoma (Mr. Gore), there was printed in the Congressional Record an editorial from Wallace's Farmer. In view of some statements made in the editorial I took the matter up with Mr. Hoover, and this morning I received a letter from Mr. Hoover, which I send to the desk and ask to have read.

The PRESIDENT pro tempore. Without objection, the Secretary will read the communication.

The reading clerk read as follows:

Washington, D. C., February 23, 1920.

Hon. Chas. B. Henderson,

United States Senate, Washington, D. C.

My Dear Senator: I am in receipt of your inquiry as to the accuracy of the statements that Senator Gore read into the Record on February 20. One statement is absurd on its face; the other relating to hogs, can easily be demonstrated inaccurate by the actual documents. It is unjust to the men who comprised the meat division of the Food Administration and the live-stock committee (14 active, prominent farmers, from all parts of the country), of the agricultural advisory board.

The facts are:

(1) In November, 1917, in order to secure production, an assurance was given that, so far as the Food Administration could effect foreign buying of pork products, it would endeavor to maintain a 13 to 1 ratio to the price of corn, as had been recommended by various producers' representatives. (Doc. No. 1.)

(2) The approach of the armistice and a sharp fall in forward prices of corn caused the plan to break down, because farmers naturally interpreted the falling corn to mean ultimate falling hogs, and a panic in marketing started. The live-stock committee of farmers was summoned to a meeting in Washington to consider the whole situation on October 25, 1918. (Doc. No. 2.)

(3) The committee recommended the abandonment of the 13 to 1 plan, as it could under the new conditions only work out to the disadvantage of the farmers, and recommended the substitution of a minimum price of \$17.50 per 100 pounds for hogs. The minutes of this meeting are given herewith and were published at the time. (Doc. No. 3.)

(4) In January, following the armistice, the allied countries abandoned the American market for cheaper fats elsewhere, and again the plan threatened to fail, but measures taken by the administration again in cooperation with the live-stock committee of farmers held the situation together. The live-stock committee recorded its great appreciation and satisfaction with the results in formal resolutions in the month of March or April, copies of which will be supplied to you.

(5) Finally, it can also be noted that the average price of hogs at Chicago for the year October 1, 1918, to October 1, 1919, was very close to \$19 per 100 pounds, and it represents the full ratio in all the predominant hog and corn States. The farmer realized fully \$2.50 per hundred more than he has realized this season in an unassured market. Under the plan used the packers' and distributors'

profits were held to definite margins and the consumers' costs were less a year ago on higher hogs than they are today.

That the stimulation was successful and important results effected for the war is shown by the following increase in exports of pork products during the fiscal year while the arrangement was in effect (fall 1918 to fall 1919) compared with that previously:

Fiscal year:	Export pounds.
1917-18.....	1,737,103,220
1918-19.....	2,944,308,936

Yours, faithfully,

HERBERT HOOVER.

The documents, subsequently ordered to be printed in the Record, are as follows:

(Document No. 1.)

"United States Food Administration,
"Meat Division,
"Chicago, November 3, 1917.

"Joseph P. Cotton, chief of the United States Food Administration meat division, today issued the following statement relative to the price of hogs:

"The main purposes of the Food Administration as to hogs are four: To see that the producer at all times can count on a fair price for his hogs so that it will be profitable to him, to see that the farmer increases the number of hogs bred, to limit the profit of the packer and the middleman, and to eliminate speculation.

"All these purposes are necessary because we must have more hogs, so that the ultimate consumer shall at all times get an adequate supply of hogs at the lowest feasible price.

"We shall establish rigid control of the packer. Fair prices to the farmer for his hogs, we believe, will be brought about by the full control which the Food Administration has over the buying of the Allies, our Army and Navy, the Red Cross, the Belgian relief, and the neutrals, which together constitute a considerable factor in the market.

"The first step is to stop the sudden break in prices paid for hogs at the central markets. These prices must become stable, so that the farmer knows where he stands, and will feel justified in increasing hogs for next winter. The prices so far as we can affect them will not go below a minimum of about \$15.50 per hundred-weight for the average of the packers' droves on the Chicago market until further notice.

"We have had, and shall have, the advice of a board composed of practical hog growers and experts. That board advises that the best yardstick to measure the cost of production of the hog is the cost of corn. That board advises that the ratio of corn price to hog price, on the average, over a series of years has been about 12 to 1 (or a little less). In the past, when the ratio has gone lower than 12 to 1, the stock of hogs in the country has decreased. When it was higher than 12, the hogs have increased. That board has given its judgment that to bring the stock of hogs back to normal under present conditions the ratio should be about 13. Therefore, as to the hogs farrowed next spring, we will try to stabilize the price so that the farmer can count on getting for each 100 pounds of hog ready for market thirteen times the average cost per bushel of the corn fed into the hogs.

"Let there be no misunderstanding of this statement. It is not a guaranty backed by money. It is not a promise by the packers. It is a statement of the intention and policy of the Food Administration, which means to do justice to the farmer."

(Document No. 2.)

"United States Food Administration,

"Washington, D. C., October 24, 1918.

"Dear Gov. Stuart: I have asked that we should have a meeting to consider the present situation in the hog market, and for the board to join in the negotiations for placing the controlled orders for export products for the month of November.

"You will recollect that at our meeting a month ago methods were outlined by your board that were then felt would apply in a practical way the formula for a price of 100-pound hogs, based on the average farm value of 13 bushels of corn, and that by the application of this arrangement from month to month stability and assurance could be given to the market and a stimulative return could be given to the swine growers of the country during the heavy marketing season. The October contracts for export shipments were let to the 50 different participating packing firms by the Food Administration for 130,000,000 pounds of pork products on a basis reflecting the recommendation of the board, and these packers undertook, in writing, to support the price of hogs on this general basis during the month of October.

"We all believed that these arrangements would work out to stabilize the price up to a fair level to give just return to the farmer, and would give effect to the announced policies of the Food Administration in his protection.

"Since our meeting very serious difficulties have arisen from causes that could not be foreseen, and these difficulties give me the most extreme anxiety. They arise from the following causes:

"The current peace negotiations have alarmed the holders of corn and there has been a fall of from 30 cents to 40 cents per bushel in the price. The large accumulations of very low-priced corn in the Argentine and South Africa would, upon peace and liberated shipping, become available to the European and even the American market, and in consequence there has been a good deal of natural alarm. This fall in corn has created the fear with many hog growers that a similar fall was impending in hogs as well as corn with the advent of peace. Moreover, this lower range of corn prices, when incorporated in an average of the previous five months settled upon as a basis for calculating hogs, prophesies a continuously falling price of hogs. As a result, producers are apparently in a panic at this possible indication of lower ranges and have been over shipping to the market. The receipt of hogs is running apparently somewhere near 30 per cent more than the receipts last year, while the increased production in the country appears to average but about 15 per cent. In addition there has been an undue marketing of heavy sows, which are not adapted for export. The result has been a great embarrassment to the packing houses to take care of the receipts. Many of the packers have actually paid over the price at which hogs were offered in an endeavor to maintain their obligation. The action taken by the board and the Food Administration at the last meeting has, fortunately, prevented a slump in hogs comparable to corn."

"While I do not advance the notion that we may have immediate peace, my own view of its effect, if it should be realized, is that no matter what the result might be in corn there will be an even larger demand for pork products with peace than during the war, because of the enormous fat shortage in the central empires, which would be an additional demand upon the top of the present heavy demand for the Allies. So far as is humanly possible to interpret these facts, I believe we should have an even stronger demand for pork products after peace than before, and that therefore the alarm of hog producers is unwarranted.

"I am extremely troubled at the situation, for, as the board is well aware, the one desire of the Food Administration is to do justice to the producer in the United States and to secure him a proper return for his large exertions in providing the world with larger food supplies. The whole plan as put into action a month ago was designed purely for this purpose. There can be no doubt that from overmarketing the plan may become any moment unmanageable. I am therefore anxious that you should consider the problem anew and all its aspects.

"To indicate our intention to proceed in this matter in absolute good faith, I may say that we have in hand orders for 170,000,000 pounds of pork products for the month of November, which may be slightly increased during the month. The Food Administration is prepared to place these orders on the basis of the 13 to 1 ratio applied to the month of November. I do not, however, feel that if the producers continue to flood the market this will assure any stability to price. This undertaking on our part should indicate our desire to carry out the plan absolutely as laid down.

"As stated above, the hogs in the country indicate a 15 per cent increase, and the increased export orders for the last five months of this year compared with last year are as follows:

	1917	1918
July	43,400,000	268,600,000
August	67,800,000	178,900,000
September	77,600,000	114,900,000
October	52,200,000	130,000,000
November	98,100,000	170,000,000
December	90,000,000	†200,000,000
Total	429,100,000	1,062,400,000

†Estimated.

"It will be seen by the above that the demand has greatly increased, and I believe we could handle the situation were it not for the panic among producers and if the hogs were being shipped normally to the market in proportion to their natural increase over last year.

"Faithfully, yours.

"HERBERT HOOVER.

"The Hon. H. C. STUART,

"Chairman Agricultural Advisory Board,

"Washington, D. C."

(Document No. 3.)

"United States Food Administration,

"Washington, D. C., October 26, 1918.

"The conference between the live-stock subcommittee of the Agricultural Advisory Board, including special members representing the swine industry and of the Food Administration, held on Octo-

ber 23-25, has, after consideration of the present situation of the pork and hog market, reached the following conclusions:

"The entire marketing situation has so changed since the September joint conference as to necessitate an entire alteration in the plans of price stabilization. The current peace talk has alarmed the holders of corn, and there has been a price decline of from 25 cents to 40 cents per bushel. The fact that the accumulations of low-priced corn in the Argentine and South Africa would, upon the advent of peace and liberated shipping, become available to the European market, has created a great deal of apprehension on the part of corn holders. This decline has spread fear among swine growers that a similar reduction in the prices of hogs would naturally follow. Moreover, the lower range of corn prices would, if incorporated in a 13 to 1 ratio, obviously result in a continuously falling price for live hogs. In view of these changed conditions many swine producers anticipated lower prices, and as a result rushed their hogs to market in large numbers, and this overshipment has added to and aggravated the decline.

"The information of the Department of Agriculture indicates that the supply of hogs has increased about 8 per cent, while the highest unofficial estimate does not exceed 15 per cent increased production over last year. On the other hand, the arrival of hogs during the last three weeks in the seven great markets has been 27 per cent more than last year during the corresponding period, demonstrating the unusually heavy marketing of the available supply. In the face of the excessive receipts some packers have not maintained the price agreed last month. On the other hand, many of the packers have paid over the price offered to them in an endeavor to maintain the October price basis determined upon the September conference and undertaken by the packers. Another factor contributing to the break in prices during the month has been the influenza epidemic; it has sharply curtailed consumption of pork products and temporarily decreased the labor staff of the packers about 25 per cent.

"The exports of 130,000,000 pounds of pork products for October compared with about 52,000,000 pounds in October a year ago, and the export orders placeable by the Food Administration for November amount to 170,000,000 contrasted with the lesser exports of 98,000,000 for November, 1917. The increased demands of the Allies are continuing, and are in themselves proof of the necessity for the large production for which the Food Administration asked. The increase in export demands appears to be amply sufficient to take up the increase in hog production, but unfavorable market conditions existing in October afford no fair index of the aggregate supply and demand.

"It must be evident that the enormous shortage in fats in the Central Empires and neutral countries would immediately upon peace result in additional demands for pork products, which, on top of the heavy shipments to the Allies, would tend materially to increase the American exports inasmuch as no considerable reservoir of supplies exists outside of the United States. It seems probable that the present prospective supplies would be inadequate to meet this world demand with the return to peace. So far as it is possible to interpret this fact it appears that there should be even a stronger demand for pork products after the war, and therefore any alarm of hog producers as to the effect of peace is unwarranted by the outlook.

"In the light of these circumstances, it is the conclusion of the conference that attempts to hold the price of hogs to the price of

corn may work out to the disadvantages of pork producers. It is the conclusion that any interpretation of the formula should be a broad-gauged policy applied over a long period. It is the opinion of the conference that in substitution of the previous plans of stabilization, the live-stock subcommittee of the Agricultural Advisory Board, together with the specially invited swine representatives, should accept the invitation of the Food Administration to join with the administration and the packers in determining the prices at which controlled export orders are to be placed. This will be regularly done. The influence of these orders will be directed to the maintenance of the common object, namely, the stabilization of the price of live hogs so as to secure as far as it is possible fair returns to the producer and the insurance of an adequate future supply.

"These foreign orders are placed upon the basis of cost of hogs to the packers.

"As the result of long negotiations between this body and the packers' committee, representing the 45 to 50 packers participating in foreign orders, together with the allied buyers, all under the chairmanship of the Food Administration, the following undertaking has been given by the packers:

"In view of the undertakings on the part of the Food Administration with regard to the coordinated purchases of pork products, covered in the attached, it is agreed that the packers participating in these orders will undertake not to purchase hogs for less than the following agreed minimums for the month of November; that is, a daily minimum of \$17.50 per hundred pounds on average packers' droves, excluding throw outs. 'Throw outs' to be defined as pigs under 130 pounds—stags, boars, thin sows, and skips. Further, that no hogs of any kind shall be bought, except throw outs, at less than \$16.50 per hundred pounds. The average packers' droves to be construed as the average of the total sales in the market of all hogs for a given day. All the above to be based on Chicago.

"We agree that a committee shall be appointed by the Food Administration to check the daily operations in the various markets with a view to supervision and demonstration of the carrying out of the above.

"The ability of the packers to carry out this arrangement will depend on there being a normal marketing of hogs based upon the proportionate increase over the receipts of last year. The increase in production appears to be a maximum of about 15 per cent, and we can handle such an increase.

"If the producers of hogs should, as they have in the past few weeks, prematurely market hogs at such increasing numbers over the above it is entirely beyond the ability of the packers to maintain these minimums, and therefore we must have the cooperation of the producer himself to maintain these results. It is a physical impossibility for the capacity of the packing houses to handle a similar overflow of hogs and to find a market for the output. The packers are anxious to cooperate with the producers in maintaining a stabilization of price and to see that producers receive a fair price for their products.

"THOS. E. WILSON,
"Chairman Packers' Committee.

"The plan embodied above was adopted by the conference.

"The Food Administrator has appointed a committee comprising Mr. Thomas E. Wilson, chairman of the packers' committee; Mr. Everett Brown, president of the Chicago Live Stock Exchange; Maj. Roy, of the Food Administration; Mr. Louis D. Hall, of the Bureau of Markets, to undertake the supervision of the execution of the plan in the various markets. Commission men are asked to cooperate in carrying out the plan embodied in the packers' agreement. It must be evident that offers by commission men to sell hogs below the minimum established above is not fair, either to the producer or the participating packers. Mr. Brown has undertaken, on behalf of the commission men in the United States, that they will loyally support the plan.

"It is believed by the conference that this new plan, based as it is upon a positive minimum basis, will bring better results to the producer than average prices for the month. It does not limit top prices and should narrow the margins necessary to country buyers in more variable markets. It is believed that the plan should work out close to \$18 average.

"Swine producers of the country will contribute to their own interest by not flooding the market, for it must be evident that if an excessive overpercentage of hogs is marketed in any one month price stabilization and control can not succeed; and it is certain that producers themselves can contribute materially to the efforts of the conferences if they will do their marketing in as normal a way as possible.

"The whole situation as existing at present demands a frank and explicit assurance from the conferees represented, namely, that every possible effort will be made to maintain a live-hog price commensurate with swine-production costs and reasonable selling values in execution of the declared policy of the Food Administration to use every agency in its control to secure justice to the farmer.

"The stabilization methods adopted for November represent the best efforts of the conference, concurred in by the Food Administration and the live-stock subcommittee of the Agricultural Advisory Board, together with special swine members and the representatives of the packers, to improve the present unsatisfactory situation which has unfortunately resulted because of the injection of uncontrollable factors.

"We ask the producer to cooperate with us in a most difficult task.

"The members of the conference were:

"Food Administration: Herbert Hoover, F. S. Snyder, Maj. E. L. Roy, and G. H. Powell.

"Department of Agriculture: Louis D. Hall and F. R. Marshall.

"Producers: H. C. Stuart, Elk Garden, Va., chairman Agricultural Advisory Board; W. M. McFadden, Chicago, Ill.; A. Sykes, Ida Grove, Iowa; J. H. Mercer, Topeka, Kans.; E. C. Brown, president Chicago Live Stock Exchange; Eugene Funk, Bloomington, Ill.; Isaac Lincoln, Aberdeen, S. Dak.; C. E. Yancey; John M. Evvard, Ames, Iowa; J. G. Brown, Monon, Ind.; N. H. Gentry, Sedalia, Mo.; John Grattan, Broomfield, Colo.; C. W. Hunt, Logan, Iowa; and W. R. Dodson."

(Document No. 4.)

October 29, 1918.

"Dear Gov. Stuart: There is one important matter that was, in my understanding, agreed at the conferences just held over the stabilization of hog prices that I think should be set out now clearly in writing, in order that there may be no future misunderstanding on the subject, and I should be glad to know if the following is also your recollection:

"1. That the 13-to-1 formula, having proved disadvantageous to the farmer upon any interpretation, is absolutely abandoned as a price basis for hogs, and is only to be used for purely discussion purposes in future conferences to the end that it is considered as possible of guidance.

"2. That the whole of these plans are replaced by the periodic joint conferences between the Food Administration, the Agricultural Advisory Board (and the special members invited to sit with them on swine questions), and the packers' committee when the prices are

determined for foreign orders. That no obligation rests on the Food Administration to try to maintain any minimum prices on hogs whatever, except so far as may be periodically agreed at these conferences.

"3. That the guiding principles of the conference are to be the determination of prices on controlled orders that will yield a fair return to the producer and the coordination of these prices with commercial conditions of demand and supply, so far as it can be accomplished.

"For the purpose of your records I send you herewith the undertaking made by the packers at the conference of the 25th instant and a copy of the statement drawn up with the full approval of the conference just finished, with the names of those present.

"Yours, faithfully,

HERBERT HOOVER.

"The Hon. HENRY C. STUART,

"Agricultural Advisory Board,

"Department of Agriculture,

"Washington, D. C."

(Document No. 5.)

Department of Agriculture,

"Washington, November 6, 1918.

"Dear Mr. Hoover: Replying to your letter of October 29, in which you ask for a statement from me as to my recollection of the understanding reached in the conference as to the stabilization of hogs, held October 23-25, between your department and the live stock committee of the advisory board and associated swine producers:

"1. My recollection is in accord with yours as to the present abandonment of the 13-to-1 formula as a price basis for hogs, and that it is to be used for discussion purposes at future conferences whenever it may be considered as a possible guide.

"2. That the prices of hogs should be arrived at for the present and the immediate future by a joint conference between the Food Administration, the agricultural advisory board or the live stock subcommittee, when prices are to be determined for foreign orders.

"3. My recollection is entirely in accord with the third paragraph of your letter, reading as follows:

"That the guiding principles of the conference are to be the determination of prices on controlled orders that will yield a fair return to the producer and the coordination of these prices with commercial conditions of demand and supply, so far as it can be accomplished.

"I acknowledge the receipt of a copy of the statement made by the packers, setting forth their undertakings resulting from the conference above mentioned, together with a copy of a statement drawn up by the conference itself with the names of those present attached.

"In behalf of the live stock subcommittee of the agricultural advisory board and the swine producers associated therewith, I wish to express in so far as I may as chairman, the full confidence of the entire committee in the valuable work you have already done both for the producers and for the whole people, and to bespeak your further valuable support as food administrator in protecting the just and reasonable rights of the great army of agricultural producers of the country.

"Very truly, yours,

H. C. STUART,

"Chairman National Agricultural Advisory Committee.

"Hon. HERBERT C. HOOVER,

"United States Food Administrator,

"Washington, D. C."

Mr. HENDERSON. Mr. President, I ask that Document No. 1, Document No. 2, and Document No. 3, referred to in the letter, be printed in the Record immediately following the letter which has just been read, and also Documents Nos. 4 and 5 relating to the same subject matter.

The PRESIDENT pro tempore. Is there objection to the request of the Senator from Nevada?

Mr. GRONNA. Reserving the right to object, I desire to ask the Senator a question. I ask the Senator from Nevada to what he refers? Is this an answer to some statement made by the Senator from Oklahoma (Mr. Gore), who does not happen to be in the Chamber at this time?

Mr. HENDERSON. Mr. Hoover states in the first paragraph of his letter that the inaccuracies in the editorial relating to hogs can easily be demonstrated by the actual documents. It is not an answer to any statement made by the Senator from Oklahoma (Mr. Gore), but copies of the documents referred to in the letter showing the action taken and the reasons therefor. They give the facts, and should be printed in connection with the letter.

Mr. GRONNA. Does Mr. Hoover deny the statement made by Mr. Wallace in Wallace's Farmer?

Mr. HENDERSON. The letter of Mr. Hoover and these documents explain the situation.

Mr. GRONNA. Mr. President, if I am not mistaken, Mr. Hoover states in his letter to the Senator from Nevada that the statement made by Mr. Wallace in Wallace's Farmer, as presented by the Senator from Oklahoma, is absurd. I desire to state for the Record and for the information of the Senator from Nevada and other Senators that there appeared before the Committee on Agriculture and Forestry dozens and dozens of men who are interested in the production of hogs, and who stated most emphatically that there had been a breach of faith; that the promises made by those who said they represented the Government were not fulfilled. There were in a single day 39 men from the great State of Kansas who stated most emphatically that they represented live-stock interests to the amount of 400,000 head of cattle, and that they had then lost an average of \$60 per head. All of them stated that they had been induced by Mr. Hoover or his representatives to buy cattle and feed at the high prices, and they charged Mr. Hoover absolutely with the responsibility for what had happened.

Mr. SMOOT. Mr. President, the Senator from Nevada has asked that certain documents, No. 1, No. 2, No. 3, No. 4, and No. 5, be printed in the Record.

Mr. HENDERSON. Yes. I would like to have them printed in the Record.

Mr. SMOOT. What documents are they?

Mr. HENDERSON. They are documents relating to the subject matter in connection with the hog situation and the abandonment of the 13 to 1 formula as a price basis for hogs.

Mr. SMOOT. Have they already been prepared and issued by the Food Administration?

Mr. HENDERSON. These papers are part of the records of the Food Administration. They were copied from those records.

Mr. SMOOT. I think the letter, in substance, explains the matter. What I want to know is whether those documents have been previously printed?

Mr. HENDERSON. Not to my knowledge.

Mr. SMOOT. Then, if they have not heretofore been printed, how can they be numbered?

Mr. HENDERSON. They are simply numbered for purposes of identification, being referred to in the letter by number, so that Document No. 1, as referred to in the letter, may be identified in connection with No. 1 in the letter.

Mr. GRONNA. Mr. President—

The PRESIDENT pro tempore. Does the Senator from Utah yield to the Senator from North Dakota?

Mr. SMOOT. I yield.

Mr. GRONNA. I wish to say that I know that some of these documents have been printed in the hearings before the Committee on Agriculture.

Mr. HENDERSON. I simply make this request so as to save reading the documents. The editorial to which reference has been made was published in the Record, and I know of no good reason for excluding these documents which show the actual facts. I am asking nothing unusual, and it is fair and proper that the same action be permitted now that was permitted on February 20.

Mr. SMOOT. I was going to appeal to the Senator, if these documents are in such form today that they can be secured, and have been printed, not to request that they go into the Record.

I wish again to call the attention of the Senate to the situation in which we find ourselves in relation to paper. The Public Printer has been scouring the country from one end to the other for print paper. In Maine on last Saturday he found 10 carloads of paper. He telegraphed from Maine asking whether or not he should buy the 10 carloads of paper. The price was three times the old price of paper, but we had to accept the 10 carloads of paper and pay the price asked or cease publishing the Congressional Record. I plead with Senators to stop putting so much stuff in the Congressional Record.

Mr. KNOX. Mr. President, may I ask the Senator a question?

The PRESIDENT pro tempore. Does the Senator from Utah yield to the Senator from Pennsylvania?

Mr. SMOOT. I yield.

Mr. KNOX. Could not this matter be compromised by leaving out the speeches of Senators and merely putting in editorials and magazine articles?

Mr. SMOOT. That would help to some extent but would not nearly bring the relief that is required, because the magazine articles and other matter inserted in the Record now constitute the bulk of the proceedings of the Senate.

Mr. HENDERSON. Mr. President, I heard no objection the other day when the Senator from Oklahoma asked to have printed in the Record the editorial to which reference has been made; I think it is only fair and just that these documents should now be printed in the Record. When Senators see fit to have printed in the Record matters reflecting upon the character, integrity, and motives of private citizens or officials, an opportunity should always be given any Senator to have printed in the Record a reply to those matters. The American people always believe in fair play.

Mr. SMOOT. I did not happen to be in the Chamber when the Senator from Oklahoma asked unanimous consent for the printing of the editorial, and I dislike to stand here on the floor of the Senate and object to any paper going into the Record, but I wish to say to the Senator from Nevada that we have got to stop the practice or

else there has got to be some way devised of procuring paper from some source other than those now available, or we are not going to have the Congressional Record printed. The Senator, of course, can read the matter into the Record when the time comes, but I do not desire to force him to do that. I will ask the Senator, can any citizen secure a copy of the documents if he takes the trouble to write for them?

Mr. HENDERSON. I do not know as to that, I am sure, but I would think so.

Mr. SMOOT. If they could be procured in that way, I should object to their being printed in the Record.

Mr. HENDERSON. I can not state whether or not they can be so procured.

Mr. SMOOT. If they can not be so procured, being in answer to articles that were published in the Record at the request of the Senator from Oklahoma, I am not going to compel the Senator from Nevada to read them into the Record. Therefore, I shall not object.

Mr. HENDERSON. I thank the Senator.

The PRESIDENT pro tempore. Is there objection to the request of the Senator from Nevada? The Chair hears none, and the matter will be printed in the Record as requested by the Senator from Nevada.

AGRICULTURAL INTERESTS.

Mr. HENDERSON. In order to complete the Record of yesterday I ask to have printed in the Record, without reading, the resolution and the letter transmitting the same, which are referred to in subdivision (4) of Mr. Hoover's letter to me dated February 23. This letter was inserted in the Record on February 24 and appears on page 3577.

The PRESIDENT pro tempore. Without objection, it is so ordered.

The letter and resolution are as follows:

Department of Agriculture,
Washington, March 10, 1919.

HON. HERBERT C. HOOVER,
Hotel Crillon, Paris, France.

My dear Mr. Hoover: The purposes for which the national agricultural advisory committee was called into existence having been fully accomplished, I am today, by the consent of Secretary Houston and of the present representatives of the Food Administration in Washington, vacating my offices in the Department of Agriculture and notifying the members of the committee that there will be no further call upon us as such from either of the departments mentioned. It is unnecessary, if indeed it is not impossible, for me to add anything by way of appreciation of your administration to what has already been conveyed to you through the medium of a resolution unanimously passed by the livestock subcommittee and given to Judge Glasgow and Mr. Snyder with the request that a copy be conveyed to you, and that such use of the resolution would be made in this country as to these gentlemen might seem proper. I wish, however, for myself and in behalf of the entire committee, to renew and emphasize our indorsement, individually and collectively, of your administration and of your splendid achievements as a most important factor in winning the war and now a factor of world-wide importance

in the adjustment of the most acute of all the postwar problems. I feel that I represent the sentiment of the committee when I say that we feel ourselves greatly honored in having been coworkers with you in the great crisis through which we have passed; and now that our connection with your work has ceased, we unite in an abiding interest and confidence in your continuing success in even a larger, if not more important, field of endeavor. In a personal sense, if I may be permitted to refer to this side of our associations, I beg that you will accept my own assurances of high regard and esteem and my most sincere good wishes for your happiness in the days that are to come.

Very sincerely, yours,

H. C. STUART,

Chairman National Agricultural Advisory Committee.

"Washington, D. C., January 28, 1919.

"Whereas there has come to the attention of the livestock committee of the national agricultural advisory committee, through press reports and public statements, certain criticisms of the United States Food Administration; and

"Whereas these outgivings have made it clear to us that there is, in some quarters, a lamentable lack of knowledge respecting basic facts connected with the stimulation of production, encouragement of conservation, and control distribution of foods; and

"Whereas such complaints as have come to our attention have shown no evidence of having taken into consideration the unescapable obligation entered into by the Food Administration to secure increased food supplies for the necessary protection of our own population as well as that of our allies, including both civil and military needs, nor a due appreciation of the difficulties attending the merchandising transition from a war to a peace basis; and

"Whereas the space limitations of these resolutions give no adequate opportunity to direct attention to the broad foundations laid by Mr. Herbert Hoover, the United States Food Administrator, for the purpose of insuring essential food supplies for war needs, but feeling that we cannot do otherwise than record our judgment of the purpose, the spirit and the accomplishments of his administration: Therefore be it

"Resolved by the said livestock committee, now in session in Washington, That we here record our high sense of appreciation of the extraordinary ability and uniform fairness with which Herbert Hoover has met and discharged the weighty responsibilities which have devolved upon him in stimulating home production, without which we would now be facing a world shortage of food and consequent higher cost of living; in eliminating speculative control of wheat and other essential products, which has ever been harmful alike to producer and consumer; in conserving food and foodstuffs; and in supplying the wants of the millions who were and still are dependent upon American resources for the necessities of life.

"The committee has not agreed at all times with the policies of Mr. Hoover in dealing with national agricultural interests and questions, but it and all of its members have accepted uncomplainingly his decisions after a full and fair hearing of each case upon its merits. We have seen restrictions placed on consumption through the inauguration of wheatless and meatless days, by the requirement of the use of substitutes, and by other policies which narrowed the markets for agricultural products. This has occurred at times when prices

seemed already unduly limited, considering the war costs of production.

"We are, however, convinced that every act of the Food Administrator has been conceived and executed in a desire to deal fairly with the American people, both producers and consumers, equitably yet firmly with the various agencies of distribution, and generously with our struggling allies.

"We are of opinion that no agency or department of the Government has done a greater work, and that no man of the many chosen for important national and international service, has earned a higher place in public esteem and admiration than has the man who played so notable a part in guiding and bringing together the producers and consumers of the country, and who, by his rightful possession of the confidence of all classes at home and abroad, brought a united citizenship into voluntary contribution of sacrifice and service."

UNITED STATES FOOD ADMINISTRATION

Washington, D. C.

August, 1918



HEARTY DISHES *for* ONE HUNDRED

*Suitable for Hotels, Boarding
Houses, Institutions*



These recipes have been proved in the
Cafeteria of the United States Food
Administration at Washington, where
seven hundred meals are served daily

WASHINGTON
GOVERNMENT PRINTING OFFICE
1918

Large Quantity Recipes

100 PORTIONS

EXPERIMENTAL KITCHEN—JULY, 1918

1. Polenta
2. Cornmeal and cheese croquettes
3. Nut scrapple
4. Cheese pudding
5. Rice and cheese croquettes
6. Baked rice and cheese
7. Rice, nut, and egg croquettes
8. Peanut butter croquettes
9. Peanut puree
10. Bean timbale
11. Bean loaf
12. Bean croquette
13. Cream bean soup
14. Corn and cheese pudding
15. Cottage cheese loaf
16. Cheese sauce
17. Tomato sauce
18. Spanish sauce

Hearty Dishes for One Hundred

Polenta

100 PORTIONS—4 OUNCES EACH OF CORNMEAL MIXTURE, 1 OUNCE OF CHEESE

6 pounds or 2½ quarts cornmeal
12 quarts water
½ cup fat
6 pounds cheese
7 quarts tomato sauce
1 cup salt

Heat 12 quarts of water to the boiling point, add the cornmeal and salt.

Cook in a double boiler until very thick, adding the fat just before pouring into molds one inch deep.

When cold cut the mush in desired size and place in a dish leaving space between the pieces.

Cover the top with a layer of grated cheese.

Pour a thick highly seasoned tomato sauce over the whole and bake till the mush is heated through.

Cornmeal and Cheese Croquettes

100 PORTIONS OF 4 OUNCES EACH

8 quarts cooked thick cornmeal
4 quarts cheese sauce

Mix the ingredients thoroughly.

Season with salt, peppers or onions if desired.

Shape for croquettes.

Roll in egg and bread crumbs.

Sauté in a small amount of fat.

Nut Scrapple

100 PORTIONS OF 4 OUNCES EACH

4½ pounds cornmeal
10 quarts milk
2½ pounds nuts
½ cup salt

Heat the milk in a double boiler to the boiling point.

Add the salt.

Add the cornmeal carefully, stirring constantly to prevent lumping. Cook until very thick.

When cooked add the chopped nuts and turn the mixture into a greased pan.

When cold, turn it from the pan, cut in slices and brown in a small amount of fat.

Cheese Pudding

100 PORTIONS OF 4 OUNCES EACH

- 3 quarts cooked commeal
- 12½ quarts milk
- 3 dozen eggs
- 2¼ pounds grated cheese
- ½ cup salt

Mix the ingredients as for custard and turn the mixture into a greased baking dish.

Set the dish in a pan of hot water in a slow oven and bake the pudding until it is firm.

Rice Croquettes

100 PORTIONS OF 4 OUNCES EACH

- 6¾ pounds of rice—cooked until dry or 8 quarts of cooked rice
- 2¾ pounds cheese
- 2 quarts tomatoes
- ½ cup salt
- 1 onion
- 1 red pepper
- ½ dozen eggs or 1 quart thick white sauce

Cook rice in 9 quarts water until dry.

Add grated cheese, tomatoes, onion, salt, pepper eggs, or thick white sauce.

Mix well—cool.

Shape, roll in egg and crumbs.

Bake in a small amount of fat in a hot oven.

This may be formed into a loaf and baked in the oven.

Baked Rice and Cheese

100 PORTIONS—4 OUNCES EACH

- 6½ pounds rice or 8 quarts cooked rice
- 12 quarts cheese sauce
- Onion to taste
- ½ cup salt
- 1 teaspoon pepper

Cook rice until dry in 9 quarts salted water.

Add cheese sauce, chopped onion and pepper.

Mix thoroughly and bake in a moderate oven until brown on top.

Nut and Egg Croquettes

100 PORTIONS OF 4 OUNCES EACH

- 3 pounds or 6 cups of rice or 4 quarts of cooked rice
- 2 pounds walnuts or other nuts
- 1 dozen hard boiled eggs
- 1 quart heavy white sauce
- $\frac{1}{4}$ cup salt

Cook the rice until dry in 4 quarts of salted water.
Add the finely chopped nuts and eggs to the rice.
Add the white sauce.
Mix thoroughly.
Shape either as croquettes or into a loaf.
Bake the croquettes in a small amount of fat in the oven.

Peanut Butter Croquettes

100 SERVINGS—4 OUNCES EACH

- 12 $\frac{1}{2}$ quarts milk
- 1 $\frac{1}{2}$ pounds cornstarch
- 10 pounds peanut butter
- $\frac{1}{2}$ cup salt
- 1 onion

Heat 12 quarts of milk in a double boiler.
Add the onion and salt.
Add the cornstarch mixed with $\frac{1}{2}$ quart of milk.
Cook 15-20 minutes—stirring to prevent lumping.
Add the peanut butter and beat until smooth.
Thicken with fine bread or cracker crumbs to the consistency to mold.
Allow to cool. Shape into pats and brown in a small amount of fat in the oven.

Peanut Puree100 PORTIONS— $\frac{1}{4}$ CUP EACH

- 10 quarts milk
- 5 ounces cornstarch
- 8 pounds peanut butter
- $\frac{1}{3}$ cup salt
- Onion

Heat 9 quarts of milk to the boiling point.
Add the cornstarch mixed with 1 quart cold milk.
Cook in a double boiler for 30 minutes, stirring to prevent lumping.
Add the peanut butter, salt and chopped onion.
Cook until smooth.

Bean Timbale

100 PORTIONS OF 4 OUNCES EACH

8 quarts bean pulp
4 quarts milk
3 dozen eggs
Salt
Pepper
Onion
Celery salt
Pimento or red or green pepper

Mix the ingredients in the order in which they are given.

Bake in greased custard cups in hot water in a moderate oven until thickened.

This may be served with tomato sauce.

Bean Loaf

100 PORTIONS OF 4 OUNCES EACH

7½ quarts cooked beans
4 quarts cold mashed potatoes
1 quart ground peanuts
3 cups tomato catsup
5 green peppers
½ cup melted fat
Celery or celery salt
Salt and pepper

Combine the ingredients and shape into a loaf. Place in a greased pan, brush over with melted fat. Bake it in a rather quick oven for 25 minutes.

Serve with a tomato sauce.

Bean Croquette

100 PORTIONS OF 4 OUNCES EACH

9 quarts bean pulp
4 quarts thick white sauce
1 cup tomato catsup
2 peppers
Salt to taste
Onion to taste

Combine the ingredients.

Allow the mixture to stand for 2 or 3 hours.

Shape into balls and flatten out.

Roll in egg and bread crumbs.

Brown in a small amount of hot fat.

Cream Bean Soup

100 PORTIONS OF 1 CUP EACH

20 quarts milk or part milk and water or stock
12 ounces cornstarch
4 ounces salt
5 quarts bean pulp
Onion to taste
Pepper to taste

Heat 19 quarts of milk in a double boiler.
Add the cornstarch mixed with 1 quart of milk.
Cook for 15-20 minutes, stirring to avoid lumping.
Add salt, bean pulp, onion and pepper.
Stir until smooth.

Corn Pudding

100 PORTIONS—4 OUNCES EACH

12 No. 2 cans corn
6 quarts milk
2 dozen eggs
 $\frac{1}{4}$ cup salt
3 pounds grated cheese

Mix all the ingredients thoroughly as for a custard.
Pour into buttered pans.
Set in pans of hot water and cook in a moderate oven until set.

Cottage Cheese Loaf

100 PORTIONS OF 4 OUNCES EACH

4 quarts bean pulp
8 pounds or 4 quarts cottage cheese
4 pounds or 4 quarts ground nuts
1 cup chopped onion
 $\frac{1}{2}$ pound butter
2 quarts strained tomato juice
4 quarts bread crumbs
 $\frac{1}{3}$ cup salt

Combine the ingredients and form the mixture into a roll.
Brush over with melted fat.
Bake in a moderate oven for 20-30 minutes.
Serve with tomato sauce.

Cheese Sauce

6 QUARTS OF CHEESE SAUCE

- 5 quarts milk
- $\frac{1}{3}$ pound cornstarch
- $4\frac{1}{2}$ pounds cheese
- 3 tablespoons salt

Heat 4 quarts of milk.

Add cornstarch mixed with 1 quart of milk.

Cook in a double boiler until thick, stirring to prevent lumping.

Add grated cheese and salt.

Stir until smooth.

Tomato Sauce

100 PORTIONS OF $\frac{1}{4}$ CUP EACH

- 6 quarts tomato pulp
- 1 cup chopped onion
- 3 cups corn flour
- $\frac{1}{3}$ cup salt
- 1 quart cold water
- 3 chopped green or red peppers

Heat the tomato pulp in a double boiler.

Add the flour mixed with the cold water.

Cook for 15-20 minutes, stirring to prevent lumping.

Add onion, salt and pepper.

Spanish Sauce

100 PORTIONS OF $\frac{1}{4}$ CUP EACH

- $\frac{3}{4}$ pound fat
- $\frac{2}{3}$ pound corn flour
- $\frac{1}{4}$ cup salt
- $1\frac{1}{2}$ teaspoons pepper
- 3 quarts tomatoes
- 3 quarts stock or water
- $\frac{3}{4}$ cup chopped onion
- $\frac{3}{4}$ cup chopped pimiento or fresh peppers

Melt the fat.

Add corn flour—mix thoroughly.

Add all other ingredients and cook for 15-20 minutes or until thickened, stirring to prevent lumping.



ACCOPRESS

GENUINE PRESSBOARD BINDER

CAT. NO. **BD 2106**

ACCO PRODUCTS, OGDENSBURG, N. Y.
A DIVISION OF NATSER CORPORATION

